

Application No. _____

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BEFORE THE
PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

GOLDEN STATE WATER COMPANY

WORKPAPERS

CONSERVATION EXPENSE

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July 2020

BAYPOINT LIVINGWISE®

PROGRAM SUMMARY REPORT

2018-2019

SUBMITTED BY:



RESOURCEACTION
PROGRAMS

A FRANKLIN ENERGY COMPANY

Baypoint LivingWise® Program Summary Report 2018-2019

Made possible by:



Golden State
Water Company

A Subsidiary of American States Water Company

Submitted by:



A FRANKLIN ENERGY COMPANY

August 2019

“The students liked using the digital thermometer and the LED night light.”

Abel Vanegas, Teacher

Riverview Middle School

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“Thank you — it was very good the way you let the students know that small details make great changes.”

Eliseo Islas, Parent

Riverview Middle School

Executive Summary

Resource Action Programs (RAP), a Franklin Energy Company, is pleased to present this Program Summary Report to Golden State Water, which summarizes the 2018-2019 Baypoint LivingWise® Program. The program was implemented in the Golden State Water service area in the state of California by 292 teachers, students, and their families.

The following pages provide an overview of the program and materials, outline of program implementation, introduction to the program team, description of program enhancements, impact of the program, and summary of results from the home activities. In addition to this information, evaluations, letters, and comments are provided for a glimpse into actual participant feedback. Lastly, projected savings from the individual measures found within the LivingWise Kit are also included.

Participant Satisfaction

A successful program excites and engages participants. Students, parents, and teachers are asked to evaluate the program and provide personal comments. A sample of the feedback is given in the margin. >

100%

*Teachers who indicated
parents supported
the program.*

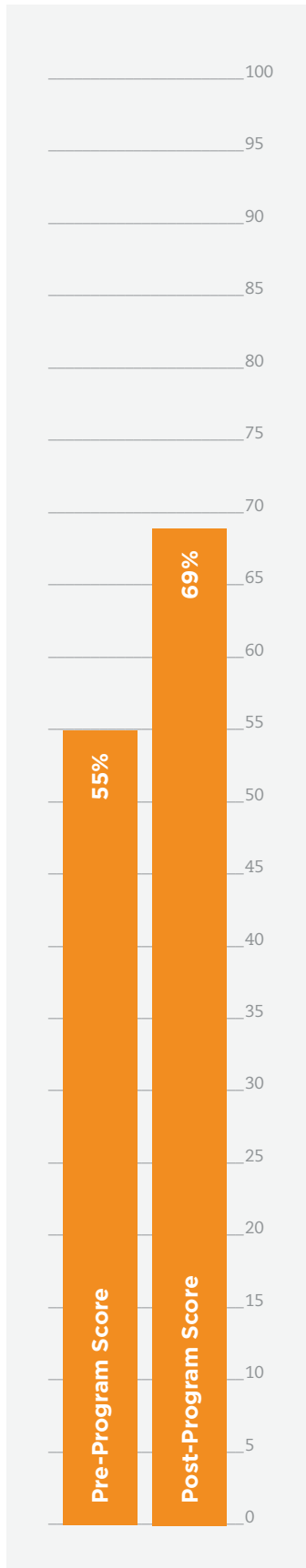
100%

*Teachers who indicated
they would recommend
this program to
other colleagues.*

100%

*Teachers who indicated
they would conduct this
program again.*

A summary of responses can be found
in Appendix D.



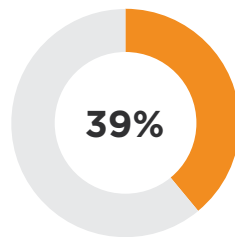
Knowledge Gained

Identical tests were administered to the students prior to the program and again upon program completion to measure knowledge gained. Scores and subject knowledge improved from **55% to 69%**.

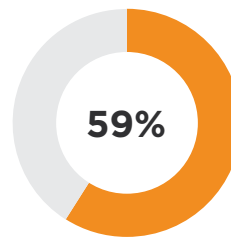
Data Obtained

Home surveys were taken by students and their families, which collected household demographic and consumption data along with program participation information.

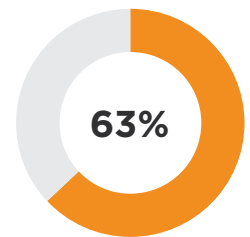
A summary of responses can be found in Appendix B.



Students who reported that their family home is owned.



Students who reported that their water is heated by natural gas.

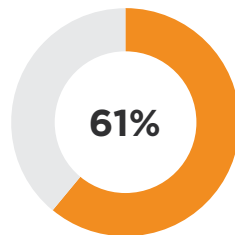


Students who reported that their home has a dishwasher.

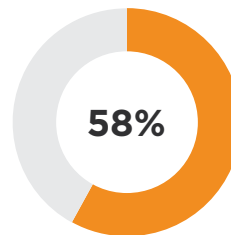
Measures Installed

Students completed take-home activities as part of the program and reported on the kit measures they installed in their homes.

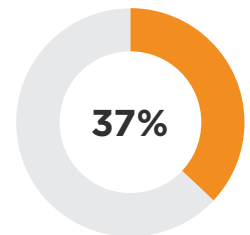
A summary of responses can be found in Appendix B.



Students who reported they installed the LED Night Light.



Students who reported they installed the LED Light Bulb.



Students who reported they installed the FilterTone Alarm.

Energy and Water Savings Results

In addition to educating students and their parents, a primary program goal is to generate cost-effective energy and water savings. Student home surveys not only provided the data used in the savings projections, but also reinforced the learning benefits.

Projected Resource Savings

A list of assumptions and formulas used for these calculations can be found in Appendix A.

PROJECTED ANNUAL SAVINGS		PROJECTED LIFETIME SAVINGS	
1,118,515	gallons of water saved	7,894,282	gallons of water saved
54,696	kWh of electricity saved	470,689	kWh of electricity saved
3,306	therms of gas saved	26,800	therms of gas saved
1,118,515	gallons of wastewater saved	7,894,282	gallons of wastewater saved

PROJECTED ANNUAL SAVINGS PER HOME		PROJECTED LIFETIME SAVINGS PER HOME	
3,831	gallons of water saved	27,035	gallons of water saved
187	kWh of electricity saved	1,612	kWh of electricity saved
11	therms of gas saved	92	therms of gas saved
3,831	gallons of wastewater saved	27,035	gallons of wastewater saved

*“Participants and their
parents/guardians realize
actual water and energy
savings within their home,
benefitting two generations.”*

Program Overview

The Baypoint LivingWise® Program, a school-based energy efficiency education program, is designed to generate immediate and long-term resource savings by bringing interactive, real-world education home to students and their families. The 2018-2019 program was taught in 6th grade throughout the Golden State Water service area.

The Baypoint LivingWise Program team identifies and enrolls students and teachers within the designated service area. The program physically begins with classroom discussions using a Student Guide that provides the foundations of using energy and water efficiently. It is followed by hands-on, creative, problem-solving activities led by the classroom teacher.

All program materials support state and national academic standards to allow the program to fit easily into a teacher's existing curriculum and requirements. The participating classroom teachers follow the Teacher Book and lesson plan. Information is given to guide lessons throughout the program in order to satisfy each student's individual needs, whether they are visual, auditory, or kinesthetic learners.

The LivingWise Kit and Student Workbook comprise the take-home portion of the program. Students receive a kit containing high-efficiency measures they use to install within their homes. With the help of their parents/guardians, students install the kit measures and complete a home survey. The act of installing and monitoring new energy efficiency devices in their homes allows students to put their learning into practice. Here, participants and their parents/guardians realize actual water and energy savings within their home, benefitting two generations.

A critical element of RAP program design is the use of new knowledge through reporting. At the end of the program, the Baypoint LivingWise program team tabulates all participant responses—including home survey information, teacher responses, student letters, and parent feedback—and generates this Program Summary Report.

“For more than 26 years, Resource Action Programs (RAP) has designed and implemented Measure-Based Education® programs that inspire change in household energy and water use while delivering significant, measurable resource savings.”

Program Materials

Each participant in the Baypoint LivingWise® Program receives classroom materials and energy efficiency kits containing high-efficiency measures to perform the program's take-home activities. Program materials for students, parents/guardians, and teachers are outlined below.

Each Student & Teacher Receives

Student Guide

Student Workbook

Parent Letter/Pledge Form*

Student Survey Form

Certificate of Achievement

LivingWise Kit Containing:

- High-Efficiency Showerhead
- LED Light Bulb
- Kitchen Faucet Aerator
- Digital Thermometer
- FilterTone® Alarm
- LED Night Light
- Flow Rate Test Bag
- Natural Resource Fact Chart
- Toilet Leak Detector Tablets
- Mini Tape Measure
- Parent/Guardian Program Evaluation

"GetWise" Wristband

Program Website Access at Getwise.org

Toll-Free HELP Line

Each Teacher/Classroom Receives

Teacher Book

Step-by-Step Program Checklist

Lesson Plans

California State and National Academic

Standards Chart

Teacher Survey Form

Pre/Post Student Survey Answer Keys

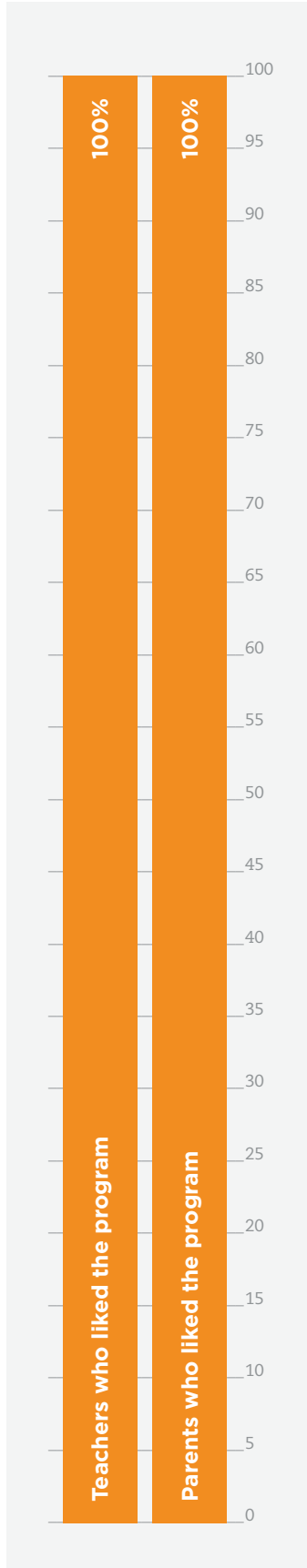
Electricity, Water, and Natural Gas Posters

Self-Addressed Postage-Paid Envelope

* Materials / Installation Instructions provided in English and Spanish

Custom Branding

In addition to increasing resource awareness and efficiency, the program has been designed to strengthen bonds between Golden State Water and the community. One of the steps taken to ensure the greatest possible exposure is to feature the Golden State Water logo throughout each LivingWise Kit. In addition to the kit, the Teacher Survey Form and Parent Letter/Pledge Form also feature Golden State Water branding.



Program Materials



TEACHER SURVEY
Your feedback is greatly appreciated.

Program brought to you by: **Golden State Water Company**
A subsidiary of Franklin Energy Company

Date: _____
School: _____
Teacher name: _____
E-mail: _____
Number of Student Survey Forms returned: _____
Teacher Signature: _____

Please assess the LivingWise® Program by filling out this Teacher Survey Form. Upon completion, return this form, your Student Survey Forms, student thank-you notes, and a letter from you to **Golden State Water Company** in the postage-paid return envelope provided.

PLEASE FILL IN THE CIRCLE THAT BEST DESCRIBES YOUR OPINION:

1. The materials were clearly written and well organized.
☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

2. The products in the kit were easy for students to use.
☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

3. Which in the Classroom experiment(s) did you complete? (Mark all that apply)
☐ Composting System
☐ Recycling bin
☐ Conservation Poster

4. Students have completed and access to the internet in my classroom.
☐ Yes ☐ No

5. Students indicated that their parents supported the program.
☐ Yes ☐ No

6. Would you conduct the program again?
☐ Yes ☐ No

7. Would you recommend this program to other colleagues?
☐ Yes ☐ No

8. Would you be willing to participate in a Teacher Focus Group?
☐ Yes ☐ No

9. What did students like best about the program? Explain.

10. What did you like best about the program? Explain.

11. What would you change about the program? Explain.

GET YOUR \$50.00 MINI GRANT!
Return the following by **May 15, 2019**
 • 80% of Student Survey Forms
 • This Teacher Survey Form
 • Student Thank-you notes
 • A letter from you

Teacher Survey Form



PARENTS
Golden State Water Company
A subsidiary of Franklin Energy Company

CONGRATULATIONS!
Your family has been selected to participate in the exciting LivingWise Program. The program is designed to teach your child the value of water and energy and help you save money on your utility bills. This program is being provided by **Golden State Water Company** as a public utility service.

For average U.S. households, parents can save at least \$2,000 per year in utility bills and can reduce these costs with just a few simple changes. Your child will be given a kit which includes 100% high-quality energy and water-saving products that allow the latest energy-saving technology. This kit is valued at over \$50 and will provide you with the ability to make these changes.

To participate, please do the following:
 • Take your child to the school where they would like to use energy and water and complete the Pledge Form located on the next page.
 • Complete all of the kit items. You will save costs on all of the activities in less than 15 minutes. If you need additional help installing the kit items, call our customer service line at 1-888-GET-WISE.
 • Come with your child to receive all of the kit items in one day.

The LivingWise Program will be an easy and fun experience for your entire family. Not only will it allow your child the chance to be a leader in your home and community but also your family will be rewarded with savings on your utility bills. Thank you for your participation.

LET'S GET STARTED!

SIGN + INSTALL = SAVE

QUESTIONS? • 1-888-GET-WISE • www.getwise.org

STUDENTS
PLEDGE FORM

Name: _____
School: _____
Teacher: _____

I pledge to do my part by following all of the items in my kit to save energy and water as well as reduce my family's utility bills.

TAKE THE PLEDGE

I have helped you out by signing your Pledge. All you have to do is complete the kit items and return the Pledge Form to your teacher. The program will teach you how to save energy and water. Taking the Pledge Form that you signed to the energy and water kit will help you out.

SIGN THE PLEDGE

Parent Signature: _____
Student Signature: _____

Parent Letter/Pledge Form



Student Guide



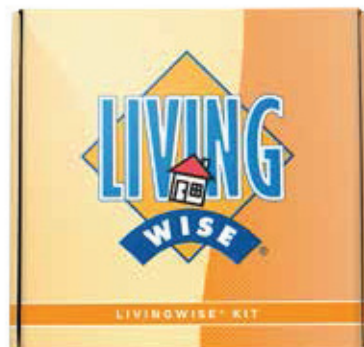
Student Workbook



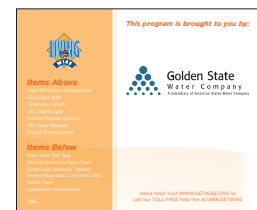
Teacher Book



Certificate of Achievement



Kit Box



Kit Label

“As a teacher, what I liked about the program was the reading material and student guide for LivingWise.”

Abel Vanegas, Teacher

Riverview Middle School

Program Implementation

The 2018-2019 Baypoint LivingWise® Program followed this comprehensive implementation schedule:

1. Identification of California state and national academic standards & benchmarks
2. Curriculum development and refinement (completed annually)
3. Curriculum correlation to California state and national academic standards & benchmarks
4. Materials modification to incorporate Golden State Water branding
5. Incentive program development
6. Teacher/school identification—with Golden State Water approval
7. Teacher outreach and program introduction
8. Teachers enrolled in the program individually
9. Implementation dates scheduled with teachers
10. Program material delivered to coincide with desired implementation date
11. Delivery confirmation
12. Periodic contact to ensure implementation and teacher satisfaction
13. Program completion incentive offered
14. Results collection
15. Program completion incentive delivered to qualifying teachers
16. Thank you cards sent to participating teachers
17. Data analysis
18. Program Summary Report generated and distributed

Participating teachers are free to implement the program to coincide with their lesson plans and class schedules. Appendix C provides a comprehensive list of classrooms in grade 6 that participated during the 2018-2019 school year.

Resource Action Programs (RAP) has been in the business of designing and implementing energy and water efficiency programs for nearly three decades. Throughout this time we've built an expert team of industry professionals that deliver a seamless program to achieve your goals.

We designed the Baypoint LivingWise® Program in our program center from the ground up. Working in conjunction with Golden State Water, we identified goals, desired outcomes of the program, and specific materials' customization. The result is a stimulating program that delivers significant and measurable resource savings. The Baypoint LivingWise Program features a proven blend of innovative education, comprehensive implementation services, and hands-on activities to put efficiency knowledge to work in homes throughout the Golden State Water service territory.

The Baypoint LivingWise Program is a reflection of true teamwork. On behalf of the entire implementation team at Resource Action Programs, I would like to thank you for the opportunity to design and implement the Baypoint LivingWise Program. It has been a pleasure working with you. I look forward to many more years of program success.

Sincerely,



Kevin Flom
Program Consultant



Chase Griswold
Program Manager

Program Team

Program Team

The success of the Baypoint LivingWise® Program is owed to a cross-functional implementation team chosen specifically to meet the goals of the program. We incorporated both a PMP® certified Program Manager and a CEM® designated energy analyst to ensure the program hits key milestones and delivers results. These thought leaders are supported by an integral mix of specialists working in unity to accomplish your program objectives. The Baypoint LivingWise Program implementation team consisted of the following:

Outreach

Our outreach team is the face of the Baypoint LivingWise Program, introducing teachers to the program, and providing support throughout implementation to guarantee the program's success in the classroom. This group builds relationships and keeps teachers engaged in program execution year after year.

Graphic Design and Marketing

Expertly-designed kits and program materials are a result of our Graphic Design and Marketing teams. This group provides brand alignment and marketing strategies to ensure program branding is within guidelines. Additionally, this team facilitates copy and art direction and works with education to develop end-user activities.

Education

Led by a Ph.D. educator having both classroom and administration leadership experience, this team is responsible for the development of educational content as well as classroom energy literacy and engagement. The group also ensures the program's content is aligned with California state expectations in science, math, and language as well as the rigorous expectations of STEM (Science, Technology, Engineering, and Math).

Information Technology

We leave IT strategy and cyber security in the hands of our experts. This team built and manages the integrated systems responsible for seamlessly blending operations, driving automation, and maximizing participation in the Baypoint LivingWise Program. This group provides the managed data services and software in support of outreach, enrollment, order processing, fulfillment, data collection and reporting.

Warehouse and Logistics

Last but not least, our warehouse and logistics teams guarantee Baypoint LivingWise program materials reach the classroom on-time and without errors. This group provides printing, purchasing, production, quality assurance & control, warehousing and shipping for all program materials. Additionally, this team ensures that all materials are consistent with orders and confirms delivery.

“Upon completion of the program, participating families are asked to complete a home survey to assess their resource use, verify product installation, provide demographic information, and measure participation rates.”

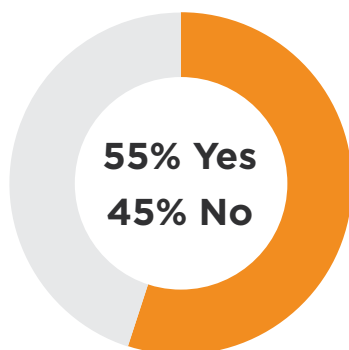
Program Impact

The Baypoint LivingWise® Program has had a significant impact within the community. As illustrated below, the program successfully educated participants about energy and water efficiency while generating resource savings through the installation of efficiency measures in homes. Home survey information was collected to track projected savings and provide household consumption and demographic data. Program evaluations and comments were collected from teachers, students, and parents.

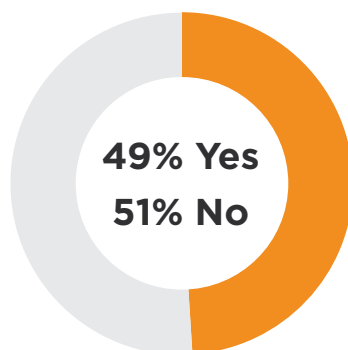
A. Home Survey

Upon completion of the program, participating families are asked to complete a home survey to assess their resource use, verify product installation, provide demographic information, and measure participation rates. A few samples of questions asked are below while a complete summary of all responses is included in the appendices.

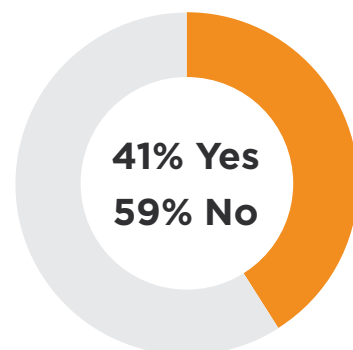
Did you work with your family on this program?	Yes - 55%
Did your family change the way they use water?	Yes - 49%
Did your family change the way they use energy?	Yes - 41%



Students who indicated they worked with their family on this program.



Students who indicated their family changed the way they use water.

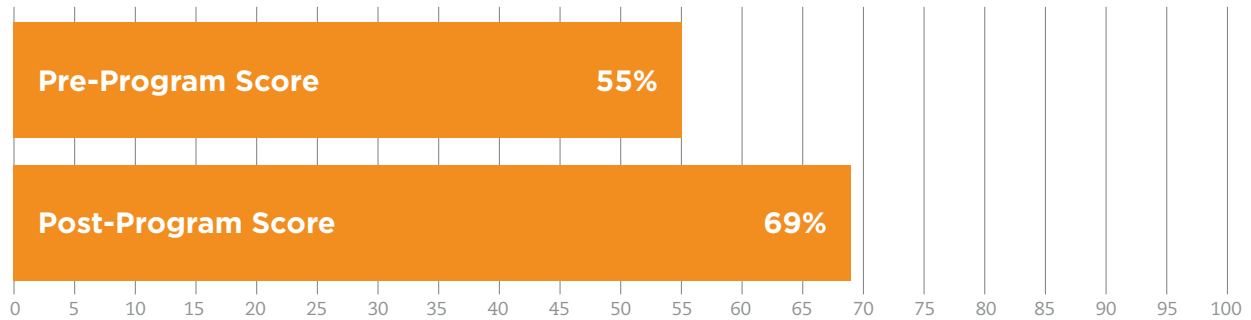


Students who indicated their family changed the way they use energy.

B. Pre-Program and Post-Program Tests

Students were asked to complete a 10-question test before the program was introduced and then again after it was completed to determine the knowledge gained through the program. The average student answered **5.5** questions correctly prior to being involved in the program and then improved to answer **6.9** questions correctly following participation.

Scores improved from 55% to 69%.



C. Home Activities

As part of the program, parents and students installed resource efficiency measures in their homes. They also measured the pre-existing devices to calculate savings that they generated. Using the family habits collected from the home survey as the basis for this calculation, 292 households are expected to save the following resource totals. Savings from these actions and new behaviors will continue for many years to come.

Projected Resource Savings

A list of assumptions and formulas used for these calculations can be found in Appendix A.

Number of Participants:	292	
	Annual	Lifetime
Projected reduction from Showerhead retrofit:	460,342	4,603,416 gallons
Product Life: 10 years	22,819	228,192 kWh
	1,883	18,835 therms
Projected reduction from Kitchen Faucet Aerator retrofit:	413,514	2,067,572 gallons
Product Life: 5 years	14,806	74,032 kWh
	1,251	6,257 therms
Toilet Leak Repair projects an annual reduction of:	244,659	1,223,294 gallons/year
Product Life: 5 years		
Projected reduction from LED Lightbulb retrofit:	8,934	87,110 kWh
Product Life: 20 years		
Projected reduction from LED Night Light retrofit:	5,060	50,602 kWh
Product Life: 10,000 hours		
Projected reduction from FilterTone® installation:	3,075	30,754 kWh
Product Life: 10 years	171	1,709 therms
TOTAL PROGRAM SAVINGS:	1,118,515	7,894,282 gallons
	54,696	470,689 kWh
	3,306	26,800 therms
TOTAL PROGRAM SAVINGS PER HOUSEHOLD:	3,831	27,035 gallons
	187	1,612 kWh
	11	92 therms

D. Teacher Program Evaluation

Program improvements are based on participant feedback received. One of the types of feedback obtained is from participating teachers via a Teacher Program Evaluation Form. They are asked to evaluate relevant aspects of the program and each response is reviewed for pertinent information. The following is feedback from the Teacher Program Evaluation for the Baypoint LivingWise Program.

Teacher Response

(A summary of responses can be found in Appendix D)

100% of participating teachers indicated they would conduct the program again given the opportunity.

100% of participating teachers indicated they would recommend the program to their colleagues.

What did students like best about the program? Explain.

“Using the digital thermometer and LED night light.”

Abel Vanegas, Riverview Middle School

What did you like best about the program? Explain.

“Reading material and student guide for LivingWise.”

Abel Vanegas, Riverview Middle School

E. Parent/Guardian Program Evaluation

Parent involvement with program activities and their children is of paramount interest to both utilities and teachers in the program. When parents take an active role in their child's education it helps the schools and strengthens the educational process considerably. When students successfully engage their families in retrofit, installation, and home energy efficiency projects, efficiency messages are powerfully delivered to two generations in the same household. The program is a catalyst for this family interaction, which is demonstrated by feedback from Parent/Guardian Program Evaluations in each program. The following is feedback from the Parent/Guardian Program Evaluations for the Baypoint LivingWise Program.

Parent Response

(A summary of responses can be found in Appendix E)

100% of participating parents indicated that the program was easy to use.

100% of participating parents indicated they would continue to use the kit items after the completion of the program.

100% of participating parents indicated they would like to see this program continued in local schools.

As a parent, which aspect of the program did you like best?

"Everything."

Eliseo Islas, Riverview Middle School

Are there any comments you would like to express to your child's program sponsor?

"Thank you — it was very good the way you let the students know that small details make great changes."

Eliseo Islas, Riverview Middle School

“The act of installing and monitoring new energy efficiency devices in their homes allows students to put their learning into practice.”

Appendices

Appendix A

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Projected Savings from Showerhead Retrofit

Showerhead retrofit inputs and assumptions:

Average household size:	5.71	people ¹
Average number of full bathrooms per home:	1.74	full bathrooms per home ¹
% of water heated by gas:	62.28%	¹
% of water heated by electricity:	37.72%	¹
Installation / participation rate of:	31.94%	¹
Average Showerhead has a flow rate of:	2.50	gallons per minute ²
Retrofit Showerhead has flow rate of:	1.75	gallons per minute ³
Number of participants:	292	¹
Shower duration:	8.20	minutes per day ²
Showers per day per person:	0.67	showers per day ²
Product life:	10.00	years ³

Projected Water Savings:

Showerhead retrofit projects an annual reduction of:	460,342	gallons ⁴
Showerhead retrofit projects a lifetime reduction of:	4,603,416	gallons ⁵

Projected Electricity Savings:

Showerhead retrofit projects an annual reduction of:	22,819	kWh ^{2,6}
Showerhead retrofit projects a lifetime reduction of:	228,192	kWh ^{2,7}

Projected Natural Gas Savings:

Showerhead retrofit projects an annual reduction of:	1,883	therms ^{2,8}
Showerhead retrofit projects a lifetime reduction of:	18,835	therms ^{2,9}

¹ Data Reported by Program Participants.

² (March 4, 2010). EPA WaterSense® Specification for Showerheads Supporting Statement. Retrieved from http://www.epa.gov/WaterSense/docs/showerheads_finalsupstat508.pdf

³ Provided by manufacturer.

⁴ $[(\text{Average Household Size} \times \text{Shower Duration} \times \text{Showers per Day per Person}) \div \text{Average Number of Full Bathrooms per Home}] \times (\text{Average Showerhead Flow Rate} - \text{Retrofit Showerhead Flow Rate}) \times \text{Number of Participants} \times \text{Installation Rate} \times 365 \text{ days}$

⁵ $[(\text{Average Household Size} \times \text{Shower Duration} \times \text{Showers per Day per Person}) \div \text{Average Number of Full Bathrooms per Home}] \times (\text{Average Showerhead Flow Rate} - \text{Retrofit Showerhead Flow Rate}) \times \text{Number of Participants} \times \text{Installation Rate} \times 365 \text{ days} \times \text{Product Life}$

⁶ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.18 kWh/gal x % of Water Heated by Electricity

⁷ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.18 kWh/gal x % of Water Heated by Electricity x Product Life

⁸ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.009 Therms/gal x % of Water Heated by Natural Gas

⁹ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.009 Therms/gal x % of Water Heated by Natural Gas x Product Life

Projected Savings from Kitchen Faucet Aerator Retrofit

Kitchen Faucet Aerator retrofit inputs and assumptions:

Average household size:	5.71	people ¹
% of homes with a dishwasher:	63.13%	¹
% of homes without a dishwasher:	36.87%	¹
% of water heated by gas:	62.28%	¹
% of water heated by electricity:	37.72%	¹
Installation / participation rate of:	34.25%	¹
Number of participants:	292	¹
Average Kitchen Faucet Aerator has a flow rate of:	2.50	gallons per minute ²
Retrofit Kitchen Faucet Aerator has flow rate of:	1.50	gallons per minute ³
Product life:	5.00	years ³
Length of use without dishwasher:	15.00	minutes per day ⁴
Length of use without dishwasher (each family member):	1.00	minute per day ⁴
Length of use with dishwasher:	3.00	minutes per day ⁴
Length of use with dishwasher (each family member):	0.50	minutes per day ⁴

Projected Water Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	413,514	gallons ⁵
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	2,067,572	gallons ⁶

Projected Electricity Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	14,806	kWh ^{4,7}
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	74,032	kWh ^{4,8}

Projected Natural Gas Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	1,251	therms ^{4,9}
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	6,257	therms ^{4,10}

¹ Data Reported by Program Participants.

² Vickers, Amy (2002). Water Use and Conservation. Amherst, MA: WaterFlow Press.

³ Provided by manufacturer.

⁴ Quantec, LLC. (2008). Impact of Flipping the Switch: Evaluating the Effectiveness of Low Income Residential Energy Education Programs. Portland: Drakos, Jamie et al.

⁵ $[\text{Length of use without dishwasher} + [\text{Average household size} \times \text{Length of use without dishwasher (each family member)}]] \times \% \text{ of homes without dishwasher} + [\text{Length of use with dishwasher} + [\text{Average household size} \times \text{Length of use with dishwasher (each family member)}]] \times \% \text{ of homes with dishwasher} \times [\text{Average Kitchen Aerator flow rate} - \text{Retrofit Kitchen Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days}$

⁶ $[\text{Length of use without dishwasher} + [\text{Average household size} \times \text{Length of use without dishwasher (each family member)}]] \times \% \text{ of homes without dishwasher} + [\text{Length of use with dishwasher} + [\text{Average household size} \times \text{Length of use with dishwasher (each family member)}]] \times \% \text{ of homes with dishwasher} \times [\text{Average Kitchen Aerator flow rate} - \text{Retrofit Kitchen Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days} \times \text{Product Life}$

⁷ Projected Annual Water Savings $\times [(8.33 \text{ lbs. / gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁸ Projected Lifetime Water Savings $\times [(8.33 \text{ lbs. / gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁹ Projected Annual Water Savings $\times [(8.33 \text{ lbs. / gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

¹⁰ Projected Lifetime Water Savings $\times [(8.33 \text{ lbs. / gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

Projected Savings from Toilet Leak Repair

Toilet Leak repair inputs and assumptions:

Number of participants:	292	¹
% of toilets leaking:	19.18%	¹
% of toilets where the leak was repaired:	34.62%	¹
Number of homes with fixed toilet leaks:	19.385	¹
USGS gallons lost per year per leak:	12,621.29	GPY per leak ²
Product Life (years of water savings):	5.00	years ³

Projected Water Savings:

Toilet Leak Repair projects an annual reduction of:	244,659	gallons/year ⁴
Toilet Leak Repair projects a lifetime reduction of:	1,223,294	gallons ⁵

¹ Data Reported by Program Participants.

² <http://www.epa.gov/WaterSense/pubs/fixleak.html>

³ Estimation of years before toilet begins leaking again. Frontier and Associates

⁴ USGS gallons lost per year per leak x 1 leak per home x Number of homes with fixed toilet leaks

⁵ USGS gallons lost per year per leak x 1 leak per home x Number of homes with fixed toilet leaks x Product Life

Projected Savings from FilterTone® Alarm Installation

FilterTone® installation inputs and assumptions:

Annual energy (electricity) use by a central system air conditioner:	1,637 kWh ¹
Annual energy (natural gas) use by central space heating or furnace:	173 therms ¹
Projected increase in efficiency (electricity):	1.75% ²
Projected increase in efficiency (natural gas):	0.92% ²
Product life:	10.00 years ³
Installation / participation rate of:	36.76% ⁴
Number of participants:	292 ⁴

Projected Electricity Savings:

The FilterTone installation projects an annual reduction of:	3,075 kWh ⁵
The FilterTone installation projects a lifetime reduction of:	30,754 kWh ⁶

Projected Natural Gas Savings:

The FilterTone installation projects an annual reduction of:	171 therms ⁷
The FilterTone installation projects a lifetime reduction of:	1,709 therms ⁸

¹ U.S. Department of Energy, Energy Information Administration 2005 Residential Energy Consumption Web site for California: <http://www.eia.gov/consumption/residential/data/2005/>

² Reichmuth P.E., Howard. (1999). Engineering Review and Savings Estimates for the 'Filtertone' Filter Restriction Alarm.

³ Provided by manufacturer.

⁴ Data reported by program participants.

⁵ Annual energy (electricity) use by a central air conditioner, heat pump or furnace x Projected increase in efficiency (electricity) x Installation rate x Number of participants

⁶ Annual energy (electricity) use by a central air conditioner, heat pump or furnace x Projected increase in efficiency (electricity) x Installation rate x Number of participants x Product life

⁷ Annual energy (natural gas) use by a central air conditioner, heat pump or furnace x Projected increase in efficiency (natural gas) x Installation rate x Number of participants

⁸ Annual energy (natural gas) use by a central air conditioner, heat pump or furnace x Projected increase in efficiency (natural gas) x Installation rate x Number of participants x Product life

Projected Savings from LED Light Bulb Retrofit

LED Light Bulb retrofit inputs and assumptions:

Product life:	20.00	years ¹
Watts used by the LED light bulb:	9	watts ¹
Hours of operation per day:	2.81	hours per day ²
Average watts used by the replaced light bulb:	60.66	watts ³
Installation / participation rate of:	57.75%	³
Number of participants:	292	³

Projected Electricity Savings:

The LED Light Bulb retrofit projects an annual reduction of:	8,934	kWh ^{2,4}
The LED Light Bulb retrofit projects a lifetime reduction of:	87,110	kWh ^{2,5}

¹ Provided by manufacturer.

² Frontier Associates. (2011). Oncor's LivingWise Program: Measurement & Verification Update.

³ Data reported by program participants.

⁴ $\{[(\text{Average wattage of light bulb replaced} - \text{Wattage of LED light bulb}) \times \text{Hours of operation per day} \times 365 \text{ Days}] \div 1,000\} \times \text{Number of participants} \times \text{Installation rate}$

⁵ $\{[(\text{Average wattage of light bulb replaced} - \text{Wattage of LED light bulb}) \times \text{Product Life}] \div 1,000\} \times \text{Number of participants} \times \text{Installation rate}$

Projected Savings from LED Night Light Retrofit

LED Night Light retrofit inputs and assumptions:

Average length of use:	4,380	hours per year ¹
Average night light uses:	7	watts
Retrofit night light uses:	0.50	watts
Product life:	10.00	years ²
Energy saved per year:	28	kWh per year
Energy saved over life expectancy:	285	kWh
Retrofit / participation rate of:	60.87%	³
Number of participants:	292	³

Projected Electricity Savings:

The LED Night Light retrofit projects an annual reduction of:	5,060	kWh ⁴
The LED Night Light retrofit projects a lifetime reduction of:	50,602	kWh ⁵

1 Assumption (12 hours per day)
2 Product life provided by manufacturer
3 Data reported by program participants
4(kWh per year x Number of participants) x Installation rate
5((kWh per year x Number of participants) x Installation rate) x Product life

Home Check-Up

1 How many kids live in your home (age 0-17)?

1	13%
2	31%
3	28%
4	13%
5	14%

2 How many adults live in your home (age 18+)?

1	9%
2	40%
3	22%
4	15%
5+	14%

3 How is your water heated?

Natural Gas	59%
Electricity	38%
Propane	4%

4 Does your home have a dishwasher?

Yes	63%
No	37%

5 How many half-bathrooms are in your home?

0	70%
1	18%
2	9%
3	2%
4+	0%

6 How many full bathrooms are in your home?

1	41%
2	47%
3	9%
4	1%
5+	1%

Due to rounding of numbers, percentages may not add up to 100%

Home Check-Up

(continued)

7 What fuel is used as the main source of energy to heat your home?

Natural Gas	47%
Electricity	46%
Heating Oil	1%
Wood	1%
Propane	2%
Other	4%

8 What type of air conditioning unit do you have?

Central Air Conditioner	60%
Evaporative Cooler	5%
Room Unit	22%
Don't Have One	13%

9 What type of home do you live in?

Single Family home	66%
Multi-Family (2-4 units)	16%
Multi-Family (5-20 units)	14%
Multi-Family (21+ units)	4%

10 Was your home built before 1992?

Yes	47%
No	53%

11 Is your home owned or rented?

Owned	39%
Rented	61%

Due to rounding of numbers, percentages may not add up to 100%

Home Activities

1	Did you install the new High-Efficiency Showerhead?	
	Yes	32%
	No	68%
2	Did your family install the new Kitchen Faucet Aerator?	
	Yes	34%
	No	66%
3	Was your toilet leaking?	
	Yes	19%
	No	81%
4	If you answered "yes" to question 3, were the leaks repaired?	
	Yes	35%
	No	65%
5	Did your family install the LED Light Bulb?	
	Yes	58%
	No	42%
6	If you answered "yes" to question 5, what was the wattage of the incandescent bulb you replaced?	
	40-watt	19%
	60-watt	19%
	75-watt	9%
	100-watt	23%
	Other	30%
7	Did your family install the FilterTone Alarm?	
	Yes	37%
	No	63%
8	How much did your family turn down the thermostat in winter for heating?	
	1 - 2 Degrees	11%
	3 - 4 Degrees	24%
	5+ Degrees	14%
	Didn't Adjust Thermostat	52%
9	How much did your family turn up the thermostat in summer for cooling?	
	1 - 2 Degrees	9%
	3 - 4 Degrees	18%
	5+ Degrees	21%
	Didn't Adjust Thermostat	52%

Due to rounding of numbers, percentages may not add up to 100%

Home Activities

(continued)

10 Did your family install the LED Night Light?	
Yes	61%
No	39%
11 Did your family lower your water heater settings?	
Yes	44%
No	56%
12 Did your family raise the temperature on your refrigerator?	
Yes	34%
No	66%
13 Did you work with your family on this program?	
Yes	55%
No	45%
14 Did your family change the way they use water?	
Yes	49%
No	51%
15 Did your family change the way they use energy?	
Yes	41%
No	59%
16 How would you rate the LivingWise Program?	
Excellent	31%
Good	48%
Fair	13%
Poor	7%

Due to rounding of numbers, percentages may not add up to 100%

Participant List

SCHOOL	TEACHER	T	S
Riverview Middle School	Abel Vanegas	1	120
Riverview Middle School	Robin Stoneking	1	170
TOTALS		2	290
TOTAL PARTICIPANTS		292	

Note: "T" represents number of teachers and "S" represents number of students

Teacher Program Evaluation Data

1 The materials were clearly written and well organized.	
Strongly Agree	100%
Agree	0%
Disagree	0%
Strongly Disagree	0%
2 The products in the Kit were easy for students to use.	
Strongly Agree	0%
Agree	100%
Disagree	0%
Strongly Disagree	0%
3 Students have computers and access to the internet in my classroom.	100%
Yes	0%
No	
4 Students indicated that their parents supported the program.	
Yes	100%
No	0%
5 Would you conduct this Program again?	
Yes	100%
No	0%
6 Would you recommend this program to other colleagues?	
Yes	100%
No	0%

Due to rounding of numbers, percentages may not add up to 100%

Parent/Guardian Program Evaluation Data

1 Was the Program easy for you and your child to use?		
Yes		100%
No		0%
2 Will you continue to use the Kit items after the completion of the Program?		
Yes		100%
No		0%
3 Would you like to see this Program continued in local schools?		
Yes		100%
No		0%

Due to rounding of numbers, percentages may not add up to 100%



RESOURCEACTION
PROGRAMS

A FRANKLIN ENERGY COMPANY

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CLEARLAKE **WATERWISE™ PROGRAM** **SUMMARY REPORT**

2018-2019

SUBMITTED BY:



RESOURCEACTION
PROGRAMS

A FRANKLIN ENERGY COMPANY

Clearlake WaterWise™ Program Summary Report 2018-2019

Made possible by:



Golden State
Water Company

A Subsidiary of American States Water Company

Submitted by:



A FRANKLIN ENERGY COMPANY

August 2019

“Students loved the hands-on application of this program. They gave feedback about how they enjoyed helping their parents install the equipment. They liked the idea of saving money in the family, so there is more to spend on fun things.”

Sonya Murch, Teacher

Pomo Elementary School

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“The faucet aerators were easy to install. They were fascinated by the toilet leak tablets. They enjoyed measuring with the tape measures.”

Sharon Lewis, Teacher

Pomo Elementary School

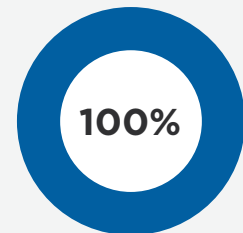
Executive Summary

Resource Action Programs® (RAP), a Franklin Energy Company, is pleased to present this Program Summary Report to Golden State Water, which summarizes the 2018-2019 Clearlake WaterWise™ Program. The program was implemented in the Golden State Water service area in the state of California by 97 teachers, students, and their families.

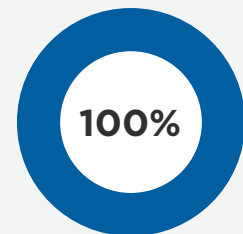
The following pages provide an overview of the program and materials, outline of program implementation, introduction to the program team, description of program enhancements, impact of the program, and summary of results from the home activities. In addition to this information, evaluations, letters, and comments are provided for a glimpse into actual participant feedback. Lastly, projected savings from the individual measures found within the WaterWise Kit are also included.

Participant Satisfaction

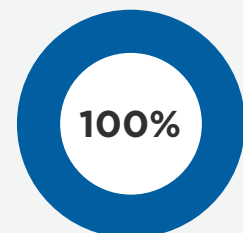
A successful program excites and engages participants. Students, parents, and teachers are asked to evaluate the program and provide personal comments. A sample of the feedback is given in the margin. >



***Teachers who indicated
parents supported
the program.***

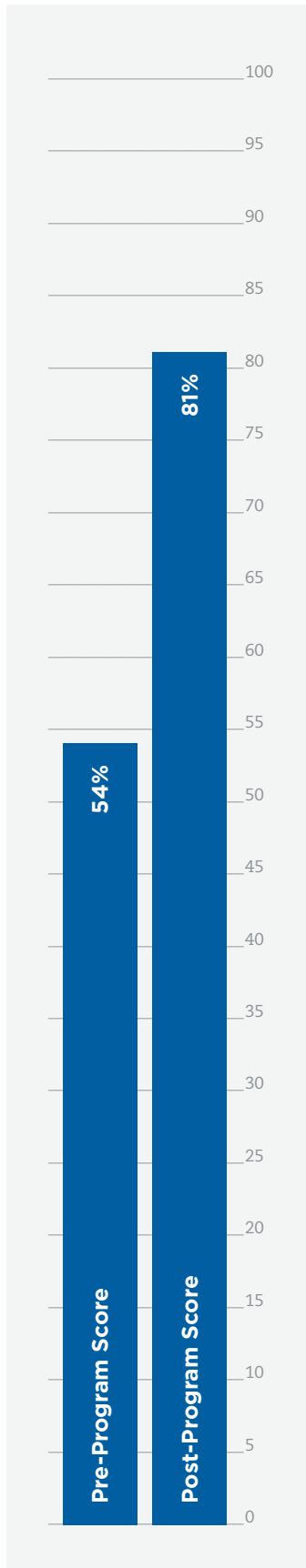


***Teachers who indicated
they would recommend
this program to
other colleagues.***



***Teachers who indicated
they would conduct this
program again.***

A summary of responses can be found
in Appendix D.



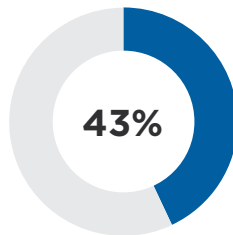
Knowledge Gained

Identical tests were taken by students prior to the program and again upon program completion to measure knowledge gained. Scores and subject knowledge improved from **54%** to **81%**.

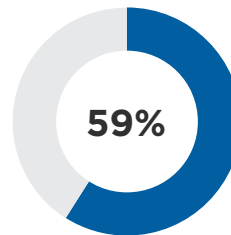
Data Obtained

Home surveys were performed by students and their families, collecting household demographic and consumption data along with program participation information.

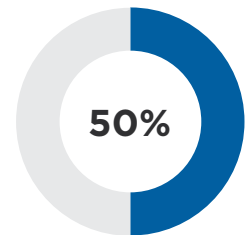
A summary of responses can be found in Appendix B.



Students who reported that their family homes were owned.



Students who reported that their water was heated by electricity.

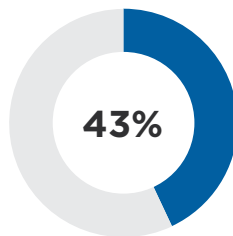


Students who reported that their home has a dishwasher.

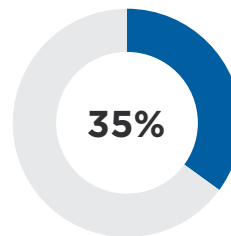
Measures Installed

Students completed retrofit activities as part of the program, and reported the measures they installed in their own homes.

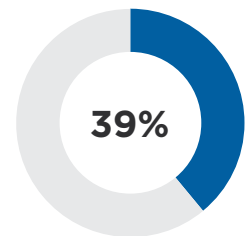
A summary of responses can be found in Appendix B.



Students who reported they installed the High-Efficiency Showerhead.



Students who reported they installed the Bathroom Faucet Aerator.



Students who reported they installed the Kitchen Faucet Aerator.

Water and Energy Savings Results

In addition to educating students and their parents, a primary program goal is to generate cost-effective water and energy savings. Student home surveys not only provided the data used in the savings projections, but also reinforced the learning benefits.

Projected Resource Savings


A list of assumptions and formulas used for these calculations can be found in Appendix A.

PROJECTED ANNUAL SAVINGS	
744,260	gallons of water saved
1,574	therms of gas saved
45,787	kWh of electricity saved
744,260	gallons of wastewater saved

PROJECTED LIFETIME SAVINGS	
5,470,724	gallons of water saved
12,524	therms of gas saved
365,694	kWh of electricity saved
5,470,724	gallons of wastewater saved

PROJECTED ANNUAL SAVINGS PER HOME	
7,673	gallons of water saved
16	therms of gas saved
472	kWh of electricity saved
7,673	gallons of wastewater saved

PROJECTED LIFETIME SAVINGS PER HOME	
56,399	gallons of water saved
129	therms of gas saved
3,770	kWh of electricity saved
56,399	gallons of wastewater saved



*“Participants and their
parents/guardians realize
actual water and energy
savings within their home,
benefitting two generations.”*

Program Overview


The Clearlake WaterWise™ Program, a school-based water and energy efficiency education program, is designed to generate immediate and long-term resource savings by bringing interactive, real-world education home to students and their families. The 2018-2019 program was taught in 5th grade throughout the Golden State Water service area.

The Clearlake WaterWise Program team identifies and enrolls students and teachers within the designated service area. The program physically begins with classroom discussions using a Student Guide that provides the foundations of using water and energy efficiently. It is followed by hands-on, creative, problem-solving activities led by the classroom teacher.

All program materials support state and national academic standards to allow the program to fit easily into a teacher's existing curriculum and requirements. The participating classroom teachers follow the Teacher Book and lesson plan. Information is given to guide lessons throughout the program in order to satisfy each student's individual needs, whether they are visual, auditory, or kinesthetic learners.

The WaterWise Kit and Student Workbook comprise the take-home portion of the program. Students receive a kit containing high-efficiency measures they use to install within their homes. With the help of their parents/guardians, students install the kit measures and complete a home survey. The act of installing and monitoring new water and energy efficiency devices in their homes allows students to put their learning into practice. Here, participants and their parents/guardians realize actual water and energy savings within their home, benefitting two generations.

A critical element of RAP program design is the use of new knowledge through reporting. At the end of the program, the Clearlake WaterWise Program team tabulates all participant responses—including home survey information, teacher responses, student letters, and parent feedback—and generates this Program Summary Report.



“For more than 26 years, Resource Action Programs (RAP) has designed and implemented Measure-Based Education® programs that inspire change in household energy and water use while delivering significant, measurable resource savings.”

Program Materials

Each participant in the Clearlake WaterWise™ Program receives classroom materials and water and energy efficiency kits containing high-efficiency measures to perform the program's take-home activities. Program materials for students, parents/guardians, and teachers are outlined below.

Each Student & Teacher Receives

Student Guide

Student Workbook

Parent Letter/Pledge Form*

Student Survey Form

Certificate of Achievement

WaterWise Kit Containing:

- High-Efficiency Showerhead
- Kitchen Faucet Aerator
- Bathroom Faucet Aerator
- Mini Tape Measure
- Digital Thermometer
- Rain/Drip Gauge
- Flow Rate Test Bag
- Natural Resources Fact Chart
- Toilet Leak Detector Tablets
- Parent/Guardian Program Evaluation

"GetWise" Wristbands

Program Website Access at Getwise.org

Toll-Free HELP Line

Each Teacher/Classroom Receives

Teacher Book

Step-by-Step Program Checklist

Lesson Plans

Teacher Survey Form

California State and National Academic

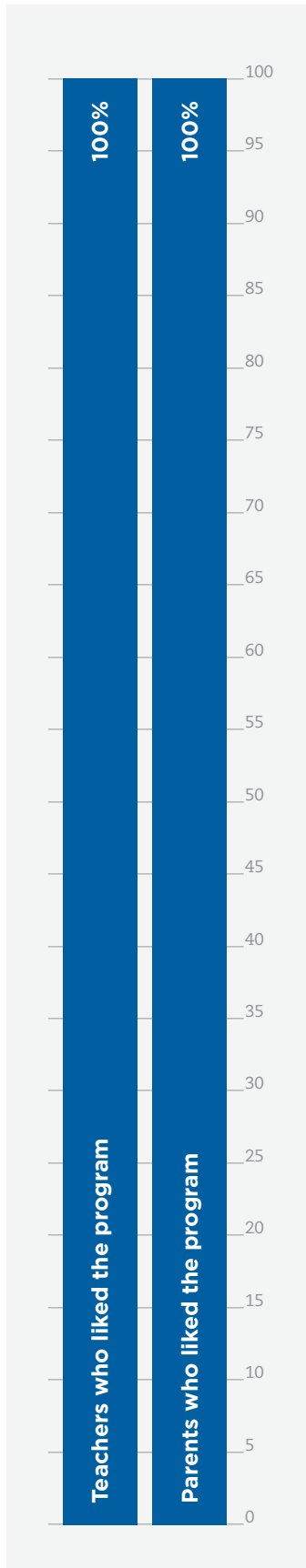
Standards Chart

Pre/Post Test Answer Keys

Water Poster

Self-Addressed Postage-Paid Envelope

* Materials / Installation Instructions provided in English and Spanish



Custom Branding

In addition to increasing resource awareness and efficiency, the program has been designed to strengthen bonds between Golden State Water and the community. One of the steps taken to ensure the greatest possible exposure is to feature the Golden State Water logo throughout each WaterWise Kit. In addition to the kit, the Teacher Survey Form and Parent Letter/Pledge Form also feature Golden State Water branding.




Program Materials

TEACHER SURVEY

Your feedback is greatly appreciated.

Program brought to you by:



Golden State
Water Company
Central Valley Division

Date: _____
School: _____
Teacher name: _____
E-mail: _____
Number of Student Survey Forms returned: _____
Teacher Signature: _____

Please send the **WaterCIRCLE™** Program by filling out this Teacher Survey Form. Upon completion, return this form, your Student Survey Forms, student thank-you notes, and a letter from you to **Golden State Water Company** in the postage-paid return envelope provided.

PLEASE FILL IN THE CIRCLE THAT BEST DESCRIBES YOUR OPINION:

The materials were clearly written and useful to students.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

1. The products in the kit were easy for students to use.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

2. Which classroom activities did you complete? (Check all that apply)

☐ Textbook/field lessons ☐ Aquatic in a Cup ☐ Water Cycle ☐ Simulation in a Box ☐ All

3. I have a computer and access to the Internet in my classroom.

☐ Yes ☐ No

4. Students indicated that their parents supported the program.

☐ Yes ☐ No

5. Would you conduct this program again?

☐ Yes ☐ No

6. Would you recommend this program to other colleagues?

☐ Yes ☐ No

7. What did students like best about the program? Explain.

8. What did you like best about the program? Explain.

9. What would you like to see changed about the program? Explain.

**GET YOUR \$50.00
PRIZE GRANT!**

Return the following by
May 15, 2019

- 100% of Student Survey Forms
- 100% of Student Thank-You Notes
- 1 Student Survey Form
- 1 Letter from you

Dr. Suzanne M. Hunsaker, Director of the California Water Science Center, is the author of the WaterCIRCLE™ Program. She is a former science teacher and has been involved in water science education for over 20 years. She is currently a professor of science education at the University of California, Davis.

Teacher Survey Form

[illegible]

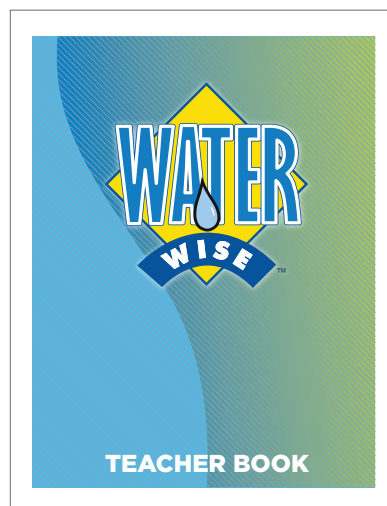
Parent Letter/Pledge Form



Student Guide



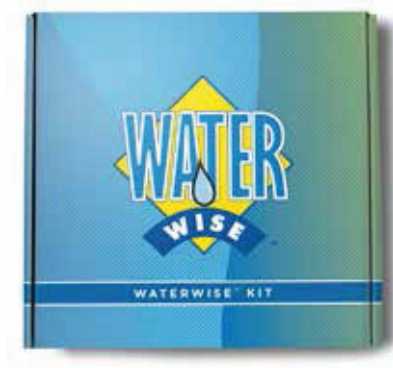
Student Workbook



Teacher Book



Certificate of Achievement



Kit Box



Kit Label

*“The students loved the kits —
especially the toilet tabs and the
tape measures!”*

Robann Hill, Teacher

Pomo Elementary School

Program Implementation

The 2018-2019 Clearlake WaterWise™ Program followed this comprehensive implementation schedule:

1. Identification of California state and national academic standards & benchmarks
2. Curriculum development and refinement (completed annually)
3. Curriculum correlation to California state and national academic standards & benchmarks
4. Materials modification to incorporate Golden State Water branding
5. Incentive program development
6. Teacher/school identification - with Golden State Water approval
7. Teacher outreach and program introduction
8. Teachers enrolled in the program individually
9. Implementation dates scheduled with teachers
10. Program material delivered to coincide with desired implementation date
11. Delivery confirmation
12. Periodic contact to ensure implementation and teacher satisfaction
13. Program completion incentive offered
14. Results collection
15. Program completion incentive delivered to qualifying teachers
16. Thank you cards sent to participating teachers
17. Data analysis
18. Program Summary Report generated and distributed

Participating teachers are free to implement the program to coincide with their lesson plans and class schedules. Appendix C provides a comprehensive list of classrooms in grade 5 that participated during the 2018-2019 school year.

Resource Action Programs (RAP) has been in the business of designing and implementing energy and water efficiency programs for nearly three decades. Throughout this time we've built an expert team of industry professionals that deliver a seamless program to achieve your goals.

We designed the Clearlake WaterWise™ Program in our program center from the ground up. Working in conjunction with Golden State Water, we identified goals, desired outcomes of the program, and specific materials' customization. The result is a stimulating program that delivers significant and measurable resource savings. The Clearlake WaterWise Program features a proven blend of innovative education, comprehensive implementation services, and hands-on activities to put efficiency knowledge to work in homes throughout the Clearlake service territory.

The Clearlake WaterWise Program is a reflection of true teamwork. On behalf of the entire implementation team at Resource Action Programs, I would like to thank you for the opportunity to design and implement the Clearlake WaterWise Program. It has been a pleasure working with you. I look forward to many more years of program success.

Sincerely,



Kevin Flom
Program Consultant



Chase Griswold
Program Manager

Program Team

Program Team

The success of the Clearlake WaterWise™ Program is owed to a cross-functional implementation team chosen specifically to meet the goals of the program. We incorporated both a PMP® certified Program Manager and a CEM® designated energy analyst to ensure the program hits key milestones and delivers results. These thought leaders are supported by an integral mix of specialists working in unity to accomplish your program objectives. The Clearlake WaterWise Program implementation team consisted of the following:

Outreach

Our outreach team is the face of the Clearlake WaterWise Program, introducing teachers to the program, and providing support throughout implementation to guarantee the program's success in the classroom. This group builds relationships and keeps teachers engaged in program execution year after year.

Graphic Design and Marketing

Expertly-designed kits and program materials are a result of our Graphic Design and Marketing teams. This group provides brand alignment and marketing strategies to ensure program branding is within guidelines. Additionally, this team facilitates copy and art direction and works with education to develop end-user activities.

Education

Led by a Ph.D. educator having both classroom and administration leadership experience, this team is responsible for the development of educational content as well as classroom energy literacy and engagement. The group also ensures the program's content is aligned with California state expectations in science, math, and language as well as the rigorous expectations of STEM (Science, Technology, Engineering, and Math).

Information Technology

We leave IT strategy and cyber security in the hands of our experts. This team built and manages the integrated systems responsible for seamlessly blending operations, driving automation, and maximizing participation in the Clearlake WaterWise Program. This group provides the managed data services and software in support of outreach, enrollment, order processing, fulfillment, data collection and reporting.

Warehouse and Logistics

Last but not least, our warehouse and logistics teams guarantee Clearlake WaterWise program materials reach the classroom on-time and without errors. This group provides printing, purchasing, production, quality assurance & control, warehousing and shipping for all program materials. Additionally, this team ensures that all materials are consistent with orders and confirms delivery.

“Upon completion of the program, participating families are asked to complete a home survey to assess their resource use, verify product installation, provide demographic information, and measure participation rates.”

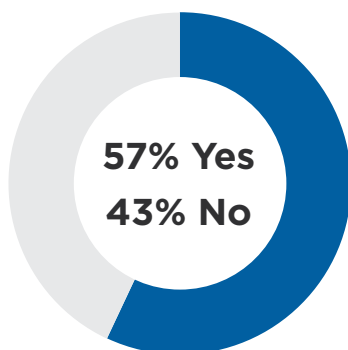
Program Impact

The Clearlake WaterWise™ Program has had a significant impact within the community. As illustrated below, the program successfully educated participants about water and energy efficiency while generating resource savings through the installation of efficiency measures in homes. Home survey information was collected to track projected savings and provide household consumption and demographic data. Program evaluations and comments were collected from teachers, students, and parents.

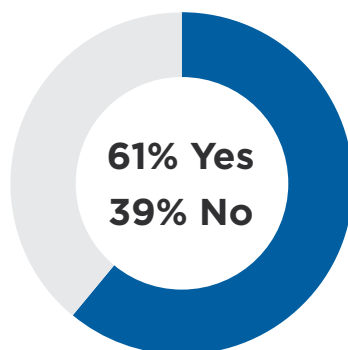
A. Home Survey

Upon completion of the program, participating families are asked to complete a home survey to assess their resource use, verify product installation, provide demographic information, and measure participation rates. A few samples of questions asked are below while a complete summary of all responses is included in the appendices.

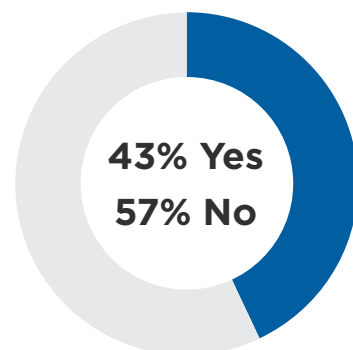
Did you work with your family on this program?	Yes - 57%
Did your family change the way they use water?	Yes - 61%
Did your family lower your water heater settings?	Yes - 43%



Students who indicated that they worked with their family on this program.



Students who indicated their family changed the way they use water.

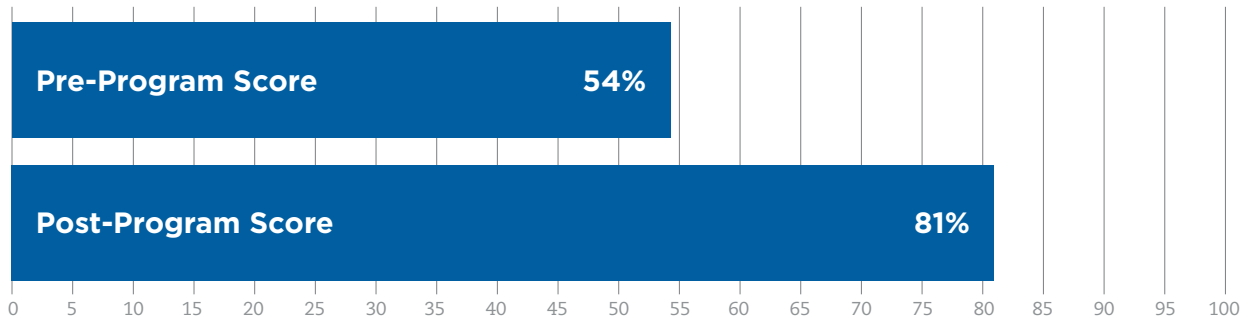


Students who indicated their family lowered their water heater settings.

B. Pre-Program and Post-Program Tests

Students were asked to complete a 10-question test before the program was introduced and then again after it was completed to determine the knowledge gained through the program. The average student answered **5.4** questions correctly prior to being involved in the program and then improved to answer **8.1** questions correctly following participation.

Scores improved from 54% to 81%.



C. Home Activities

As part of the program, parents and students installed resource efficiency measures in their homes. They also measured the pre-existing devices to calculate savings that they generated. Using the family habits collected from the home survey as the basis for this calculation, 97 households are expected to save the following resource totals. Savings from these actions and new behaviors will continue for many years to come.

Projected Resource Savings

A list of assumptions and formulas used for these calculations can be found in Appendix A.

Number of Participants:	97	
	Annual	Lifetime
Projected reduction from Showerhead retrofit:	349,885	3,498,851 gallons
Product Life: 10 years	931	9,311 therms
	27,352	273,522 kWh
Projected reduction from Kitchen Faucet Aerator retrofit:	178,956	894,780 gallons
Product Life: 5 years	352	1,761 therms
	10,105	50,527 kWh
Projected reduction from Bathroom Faucet Aerator retrofit:	147,501	737,504 gallons
Product Life: 5 years	290	1,452 therms
	8,329	41,646 kWh
Projected reduction from the Toilet Leak repair:	43,908	219,541 gallons
Estimated Useful Life (EUL): 5 years		
Projected reduction from the Faucet Leak repair:	24,009	120,047 gallons
Estimated Useful Life (EUL): 5 years		
TOTAL PROJECTED PROGRAM SAVINGS:	744,260	5,470,724 gallons
	1,574	12,524 therms
	45,787	365,694 kWh
TOTAL PROJECTED PROGRAM SAVINGS PER HOUSEHOLD:	7,673	56,399 gallons
	16	129 therms
	472	3,770 kWh

D. Teacher Program Evaluation

Program improvements are based on participant feedback received. One of the types of feedback obtained is from participating teachers via a Teacher Program Evaluation Form. They are asked to evaluate relevant aspects of the program and each response is reviewed for pertinent information. The following is feedback from the Teacher Program Evaluation for the Clearlake WaterWise Program.

Teacher Response

(A summary of responses can be found in Appendix D)

100% of participating teachers indicated they would conduct the program again given the opportunity.

100% of participating teachers indicated they would recommend the program to their colleagues.

What did students like best about the program? Explain.

“Students loved the hands-on application of this program. They gave feedback about how they enjoyed helping their parents install the equipment. They liked the idea of saving money in the family, so there is more to spend on fun things.”

Sonya Murch, Pomo Elementary School

“The faucet aerators were easy to install. They were fascinated by the toilet leak tablets. They enjoyed measuring with the tape measures.”

Sharon Lewis, Pomo Elementary School

“The students loved the kits — especially the toilet tabs and the rulers!”

Robann Hill, Pomo Elementary School

What did you like best about the program? Explain.

“I loved how easy it was to teach and that the resources were accessible for all the students. The workbook layout was simple to follow.”

Sonya Murch, Pomo Elementary School

“The gift of the showerhead and aerators kit. The lessons were simple and easy to follow. I enjoy the standard lists.”

Sharon Lewis, Pomo Elementary School

“That it teaches 5th grade standards in a meaningful way.”

Robann Hill, Pomo Elementary School

Teacher Response

(A summary of responses can be found in Appendix D)

What would you change about the program? Explain.

"I would add more videos into the program — make it more interactive. I added videos from BrainPop on the hydrologic cycle and that helped keep the content extra engaging."

Sonya Murch, Pomo Elementary School

"Maybe an option of an online survey."

Sharon Lewis, Pomo Elementary School

"Online survey? Like a Google survey."

Robann Hill, Pomo Elementary School

E. Teacher Letters

5/15/19

Dear Golden State Water,

Thank you so much for all the water wise kits and the wonderful lessons.

The students were very excited to receive the kits. Some were able to use them right away and others will be using them in the future.

The lessons were easy to follow and we enjoyed doing a couple of the activities.

Thank you,

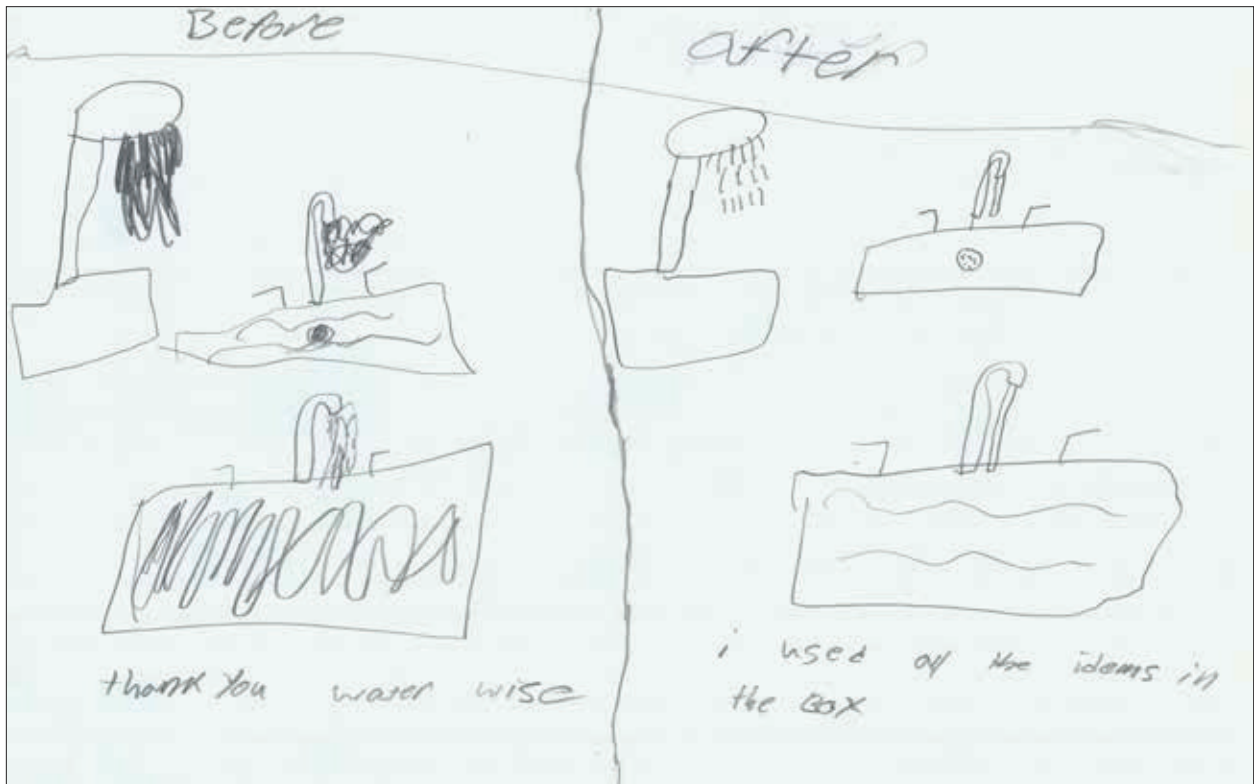
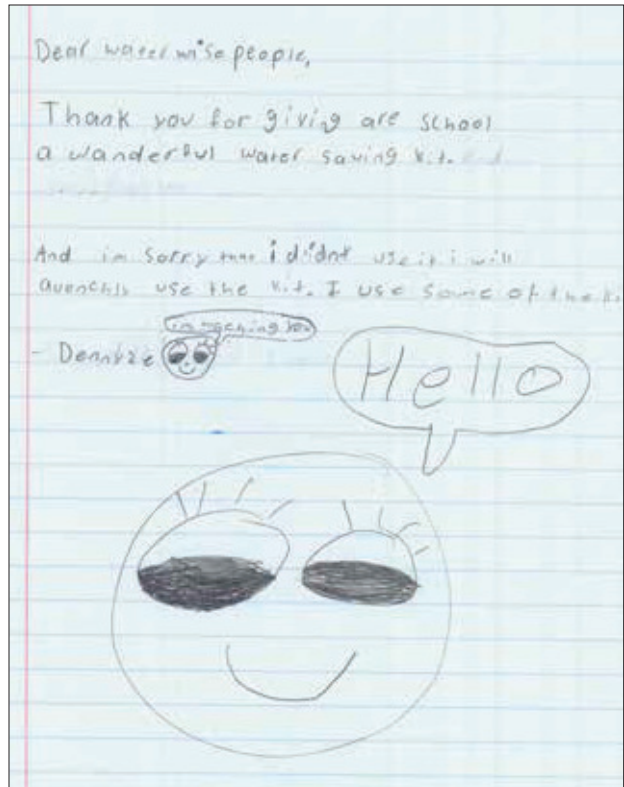
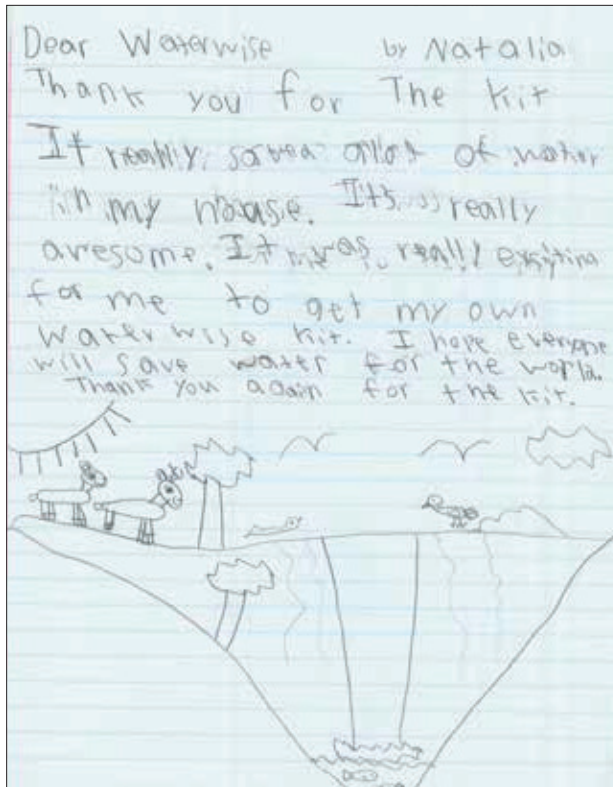
Ms. Lewis 5th Grade
Pomo Elementary

We had 27 kids still enrolled in my class when we received the kits and workbooks.

All 27 filled out the survey.

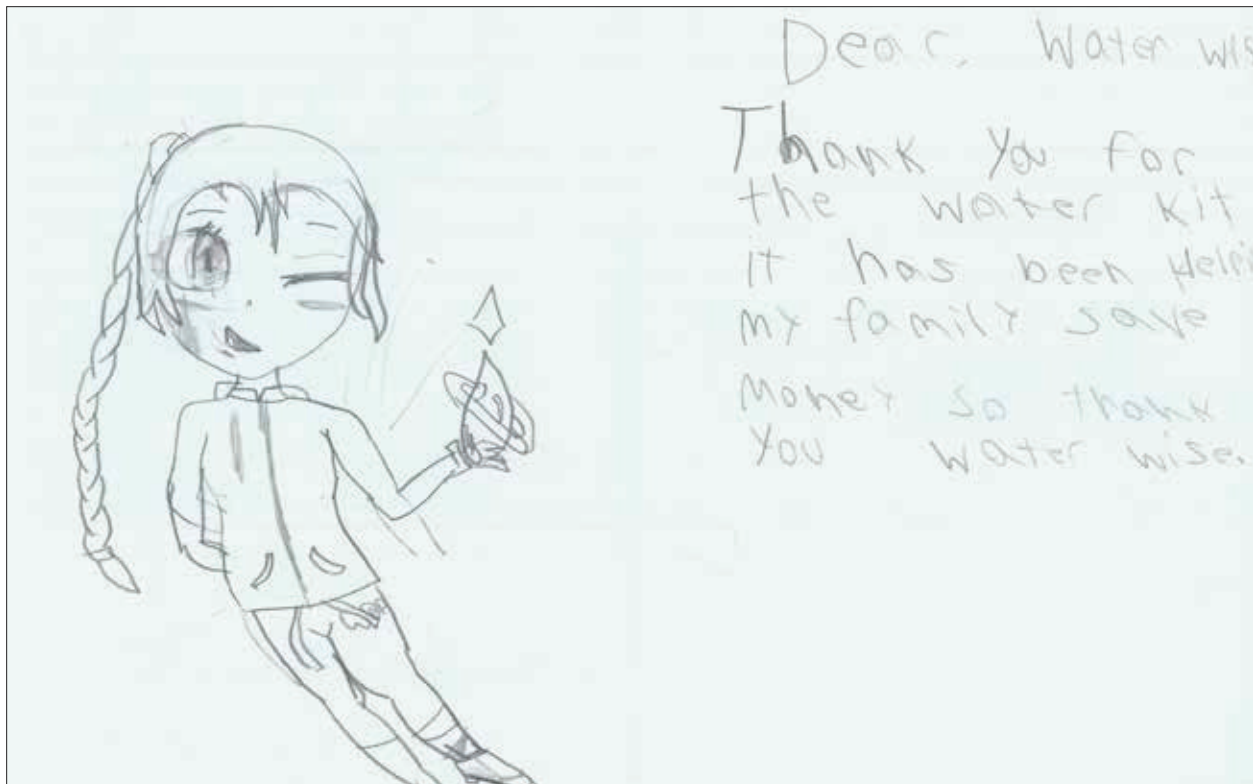
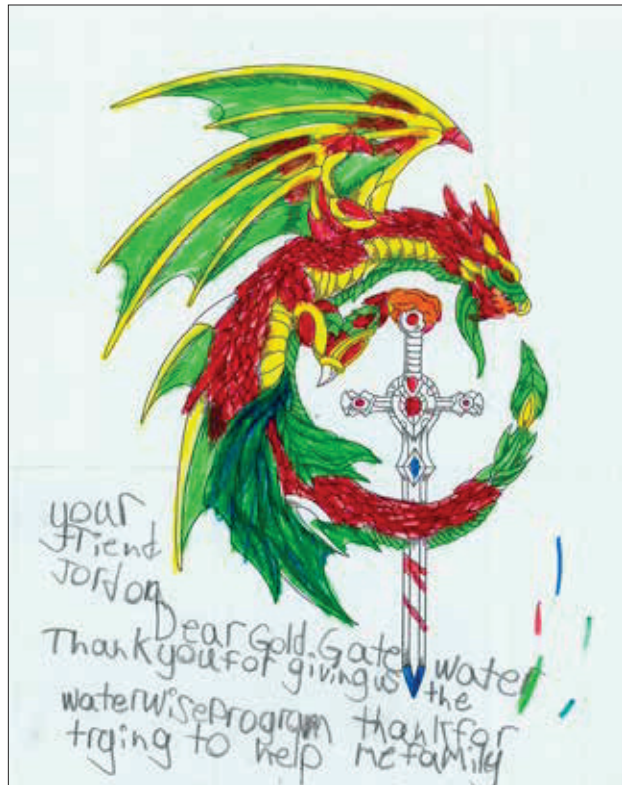
F. Student Letters

(A summary of responses can be found in Appendix E)



Student Letters

(A summary of responses can be found in Appendix E)



Student Letters

(A summary of responses can be found in Appendix E)

Golden gate Water

Dear Golden Gate Water,

Thank you for the materials that you gave my class and me!! It was so wonderful that you gave us that stuff. All the stuff can be really expensive and we got it for FREE! We learned so much about water, and now we are trying to save the water. I really liked the little blue tablets for the bathroom because that way you can see if the toilet is leaking. I also loved the kitchen faucet because it's really easy to turn of the water so when your cooking. It was really kind oh you to send all that stuff for everyone! So grateful.

Sincerely, Jocelyn

Dear Golden Gate Water,

Thank you for giving us amazing kits for our homes. Its pleasant that there's people that help our community and environment. I'm thrilled of how much y'all payed.

Sincerely, Emilio

Dear Golden Gate Water,

Thank you so much for giving us the Water Wise Program. Also, thank you very much for the water wise kits. I really liked the Water wise program because now we can save more water!! Thank you guys very much.

Sincerely,
Alejandra

Dear waterwise,

Thank you for teaching us how to save water.

Thank you for our water conservation kits,

Thank you for helping my family save water and money. that mean alot

from Diana

to: waterwise

“I loved how easy it was to teach and that the resources were accessible for all the students. The workbook layout was simple to follow.”

Sonya Murch, Teacher

Pomo Elementary School

Appendices

Appendix A

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Projected Savings from Showerhead Retrofit

Showerhead retrofit inputs and assumptions:

Average household size:	5.28	people ¹
Average number of full bathrooms per home:	1.73	full bathrooms per home ¹
% of water heated by gas:	40.51%	¹
% of water heated by electricity:	59.49%	¹
Installation / participation rate of:	42.50%	¹
Average showerhead has a flow rate of:	2.56	gallons per minute ¹
Retrofit showerhead has flow rate of:	1.18	gallons per minute ¹
Number of participants:	97	¹
Shower duration:	8.20	minutes per day ²
Showers per day per person:	0.67	showers per day ²
Product life:	10.00	years ³

Projected Water Savings:

Showerhead retrofit projects an annual reduction of:	349,885	gallons ⁴
Showerhead retrofit projects a lifetime reduction of:	3,498,851	gallons ⁵

Projected Electricity Savings:

Showerhead retrofit projects an annual reduction of:	27,352	kWh ^{2,6}
Showerhead retrofit projects a lifetime reduction of:	273,522	kWh ^{2,7}

Projected Natural Gas Savings:

Showerhead retrofit projects an annual reduction of:	931	therms ^{2,8}
Showerhead retrofit projects a lifetime reduction of:	9,311	therms ^{2,9}

¹ Data reported by program participants.

² (March 4, 2010). EPA WaterSense® Specification for Showerheads Supporting Statement. Retrieved from http://www.epa.gov/WaterSense/docs/showerheads_finalsupstat508.pdf

³ Provided by manufacturer.

⁴ [(Average Household Size x Shower Duration x Showers per Day per Person) ÷ Average Number of Full Bathrooms per Home] x (Average Showerhead Flow Rate - Retrofit Showerhead Flow Rate) x Number of Participants x Installation Rate x 365 days

⁵ [(Average Household Size x Shower Duration x Showers per Day per Person) ÷ Average Number of Full Bathrooms per Home] x (Average Showerhead Flow Rate - Retrofit Showerhead Flow Rate) x Number of Participants x Installation Rate x 365 days x Product Life

⁶ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.18 kWh/gal x % of Water Heated by Electricity

⁷ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.18 kWh/gal x % of Water Heated by Electricity x Product Life

⁸ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.009 Therms/gal x % of Water Heated by Natural Gas

⁹ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.009 Therms/gal x % of Water Heated by Natural Gas x Product Life

Projected Savings from Kitchen Faucet Aerator Retrofit

Kitchen Faucet Aerator retrofit inputs and assumptions:

Average household size:	5.28	people ¹
% of homes with a dishwasher:	50.00%	¹
% of homes without a dishwasher:	50.00%	¹
% of water heated by gas:	40.51%	¹
% of water heated by electricity:	59.49%	¹
Installation / participation rate of:	39.00%	¹
Number of participants:	97	¹
Average kitchen faucet aerator has a flow rate of:	2.50	gallons per minute ²
Retrofit kitchen faucet aerator has flow rate of:	1.50	gallons per minute ³
Product life:	5.00	years ³
Length of use without dishwasher:	15.00	minutes per day ⁴
Length of use without dishwasher (each family member):	1.00	minute per day ⁴
Length of use with dishwasher:	3.00	minutes per day ⁴
Length of use with dishwasher (each family member):	0.50	minutes per day ⁴

Projected Water Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	178,956	gallons ⁵
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	894,780	gallons ⁶

Projected Electricity Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	10,105	kWh ^{4,7}
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	50,527	kWh ^{4,8}

Projected Natural Gas Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	352	therms ^{4,9}
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	1,761	therms ^{4,10}

¹ Data reported by program participants.

² Vickers, Amy (2002). Water Use and Conservation. Amherst, MA: WaterFlow Press.

³ Provided by manufacturer.

⁴ Quantec, LLC. (2008). Impact of Flipping the Switch: Evaluating the Effectiveness of Low Income Residential Energy Education Programs. Portland: Drakos, Jamie et al.

⁵ $[\text{Length of use without dishwasher} + [\text{Average household size} \times \text{Length of use without dishwasher (each family member)}]] \times \% \text{ of homes without dishwasher} + [\text{Length of use with dishwasher} + [\text{Average household size} \times \text{Length of use with dishwasher (each family member)}]] \times \% \text{ of homes with dishwasher} \times [\text{Average Kitchen Aerator flow rate} - \text{Retrofit Kitchen Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days}$

⁶ $[\text{Length of use without dishwasher} + [\text{Average household size} \times \text{Length of use without dishwasher (each family member)}]] \times \% \text{ of homes without dishwasher} + [\text{Length of use with dishwasher} + [\text{Average household size} \times \text{Length of use with dishwasher (each family member)}]] \times \% \text{ of homes with dishwasher} \times [\text{Average Kitchen Aerator flow rate} - \text{Retrofit Kitchen Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days} \times \text{Product Life}$

⁷ Projected Annual Water Savings $\times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁸ Projected Lifetime Water Savings $\times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁹ Projected Annual Water Savings $\times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

¹⁰ Projected Lifetime Water Savings $\times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

Projected Savings from Bathroom Faucet Aerator Retrofit

Bathroom Faucet Aerator retrofit inputs and assumptions:

Average household size:	5.28	people ¹
% of water heated by gas:	40.51%	¹
% of water heated by electricity:	59.49%	¹
Installation / participation rate of:	35.06%	¹
Number of participants:	97	¹
Average bathroom faucet aerator has a flow rate of:	2.50	gallons per minute ²
Retrofit bathroom faucet aerator has flow rate of:	1.00	gallons per minute ³
Product life:	5.00	years ³
Length of use (per family member):	1.50	minutes per day ⁴

Projected Water Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	147,501	gallons ⁵
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	737,504	gallons ⁶

Projected Electricity Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	8,329	kWh ^{4,7}
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	41,646	kWh ^{4,8}

Projected Natural Gas Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	290	therms ^{4,9}
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	1,452	therms ^{4,10}

¹ Data reported by program participants.

² Vickers, Amy (2002). *Water Use and Conservation*. Amherst, MA: WaterPlow Press.

³ Provided by manufacturer.

⁴ Quantec, LLC. (2008). *Impact of Flipping the Switch: Evaluating the Effectiveness of Low Income Residential Energy Education Programs*. Portland: Drakos, Jamie et al.

⁵ $[\text{Length of use (each family member)} \times \text{Average household size}] \times [\text{Average Bathroom Aerator flow rate} - \text{Retrofit Bathroom Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days}$

⁶ $[\text{Length of use (each family member)} \times \text{Average household size}] \times [\text{Average Bathroom Aerator flow rate} - \text{Retrofit Bathroom Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days} \times \text{Product Life}$

⁷ $\text{Projected Annual Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁸ $\text{Projected Lifetime Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁹ $\text{Projected Annual Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

¹⁰ $\text{Projected Lifetime Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

Projected Savings from Toilet Leak Repair

Toilet Leak repair inputs and assumptions:

Number of participants:	97	¹
% of toilets leaking:	10.13%	¹
% of toilets where the leak was repaired:	35.42%	¹
Number of homes with fixed toilet leaks:	3.48	¹
USGS gallons lost per year per leak:	12,621.29	GPY per leak ²
EUL:	5.00	years ³

Projected Water Savings:

Toilet Leak repair projects an annual reduction of:	43,908	gallons/year ⁴
Toilet Leak repair projects a lifetime reduction of:	219,541	gallons ⁵

¹ Data reported by program participants.

² <http://www.epa.gov/WaterSense/pubs/fixleak.html>

³ Estimation of years before toilet begins leaking again. Frontier and Associates

⁴ USGS gallons lost per year per leak x 1 leak per home x Number of homes with fixed toilet leaks

⁵ USGS gallons lost per year per leak x 1 leak per home x Number of homes with fixed toilet leaks x Product Life

Projected Savings from Faucet Leak Repair

Faucet Leak repair inputs and assumptions:

Number of participants:	97	¹
Number of faucets leaking:	26	¹
% of all faucets where the leak was repaired:	28.00%	¹
Number of drips per minute:	1.00	²
Number of drips per day:	1,440	²
Number of drips per gallon:	15,140	²
Number of gallons per year:	34.00	GPY per leak ²
EUL:	5.00	years ³

Projected Water Savings:

Faucet Leak repair projects an annual reduction of:	24,009	gallons/year ⁴
Faucet Leak repair projects a lifetime reduction of:	120,047	gallons ⁵

¹ Data reported by program participants.

² <http://water.usgs.gov/edu/activity-drip.html>

³ Estimation of years before faucet begins leaking again. Frontier and Associates

⁴ USGS gallons lost per year per leak x 1 leak per home x Number of homes with fixed faucet leaks

⁵ USGS gallons lost per year per leak x 1 leak per home x Number of homes with fixed faucet leaks x Product Life

Home Check-Up

1 What type of home do you live in?		
Single family home (mobile)		10%
Single family home (manufactured)		18%
Single family home (built)		54%
Multi-family Home (2-4 units)		8%
Multi-family home (5-20 units)		3%
Multi-family home (21+ units)		8%
2 Was your home built before 1992?		
Yes		41%
No		59%
3 Is your home owned or rented?		
Owned		43%
Rented		57%
4 How many kids live in your home (age 0-17)?		
1		12%
2		22%
3		34%
4		18%
5+		13%
5 How many adults live in your home (age 18+)?		
1		12%
2		54%
3		27%
4		7%
5+		0%
6 Does your home have programmable outdoor sprinkler system?		
Yes		14%
No		86%
7 Does your home have a dishwasher?		
Yes		50%
No		50%
8 How many half-bathrooms are in your home?		
0		78%
1		15%
2		5%
3		2%
4+		0%

Due to rounding of numbers, percentages may not add up to 100%

Home Check-Up

(continued)

9 How many full bathrooms are in your home?

1	37%
2	56%
3	5%
4	2%
5+	0%

10 How many toilets are in your home?

1	29%
2	61%
3	7%
4	1%
5+	1%

11 How is your water heated?

Natural Gas	41%
Electricity	59%

Due to rounding of numbers, percentages may not add up to 100%

Home Activities

1 What is the flow rate of your old showerhead?	
0 - 1.0 gpm	8%
1.1 - 1.5 gpm	12%
1.6 - 2.0 gpm	7%
2.1 - 2.5 gpm	15%
2.6 - 3.0 gpm	19%
3.1+ gpm	39%
2 Did your family install the new High-Efficiency Showerhead?	
Yes	43%
No	58%
3 If you answered "yes" to question 2, what is the flow rate of your new showerhead?	
0 - 1.0 gpm	26%
1.1 - 1.5 gpm	53%
1.6 - 1.75 gpm	21%
4 Did your family install the new Kitchen Faucet Aerator?	
Yes	39%
No	61%
5 Did your family install the new Bathroom Faucet Aerator?	
Yes	35%
No	65%
6 Did your family lower your water heater settings?	
Yes	43%
No	57%
7 Was your toilet leaking?	
Yes	10%
No	90%
8 If you answered "yes" to question 7, were the leaks repaired?	
Yes	35%
No	65%
9 How many faucets were leaking?	
0	85%
1	8%
2	1%
3	4%
4	1%
5	1%

Due to rounding of numbers, percentages may not add up to 100%

Home Activities

(continued)

10 If you answered that there were faucets leaking in question 9, were the leaks repaired?		
Yes, all of them		28%
Yes, some of them		26%
None		46%
11 Did your family adjust the outdoor watering schedule?		
Yes		32%
No		68%
12 Did your family change the way they water outdoors?		
Yes		31%
No		69%
13 Did you work with your family on this Program?		
Yes		57%
No		43%
14 Did your family change the way they use water?		
Yes		61%
No		39%
15 How would you rate the WaterWise™ Program?		
Great		39%
Pretty good		35%
Okay		21%
Not so good		5%

Due to rounding of numbers, percentages may not add up to 100%

Participant List

SCHOOL	TEACHER	T	S
Pomo Elementary School	Robann Hill	1	32
Pomo Elementary School	Sharon Lewis	1	30
Pomo Elementary School	Sonya Murch	1	32
TOTALS		3	94
TOTAL PARTICIPANTS		97	

Note: "T" represents number of teachers and "S" represents number of students

Teacher Program Evaluation Data

1 The materials were clearly written and well organized.		
Strongly Agree		100%
Agree		0%
Disagree		0%
Strongly Disagree		0%
2 The products in the kit were easy for students to use.		
Strongly Agree		100%
Agree		0%
Disagree		0%
Strongly Disagree		0%
3 I have a computer and access to the internet in my classroom.		
Yes		100%
No		0%
4 Students indicated that their parents supported the program.		
Yes		100%
No		0%
5 If you had the opportunity, would you conduct this program again?		
Yes		100%
No		0%
6 Would you recommend this program to other colleagues?		
Yes		100%
No		0%

Due to rounding of numbers, percentages may not add up to 100%

Student Letters

(continued from page 25)

*Dear Golden Gate Water,
Thank you so much
for giving us the Waterwise
Program. It has helped me
and my family a lot from saving
water to reducing our bills!
Thank you so much for this
opportunity to help save water
it has really changed how I
look at our resources.*

*Sincerely,
Your Friend
Dominic*

Dear Golden gate water,

Thank you so much for giving us
the water wise program. I liked the
kit's and I think the shower heads
were cool.



*Dear Golden Gate Water ,
Thank you so Much For giving us the
Waterwise program. I loved it! Thank you
very much. I really appreciate that you guys
gave us the Waterwise program.*

*Your friend,
Evelin Zepeda Mendoza*

Dear Golden Gate Water,

Thank you so much for giving
us the WaterWise Program.I liked
the shower head and toilet tablets!

Sincerely,Agustin

Student Letters

(continued)

Dear Golden Gate water,
Thank you so much for giving us the
waterwise Program. It was a great
program. I have learn that using
water is smart and great.

Sincerely,
Halona

Dear Golden Gate water,
I really liked the toilet tablets and I
also liked the shower bag!

Sincerely,
Kaylee

Dear Golden Gate Water,

*Thank you so much for the waterwise
program. It is very helpful to save water. It
also helped me save water. I think it is a
cool program.*

Sincerely, Daytona

Dear Golden Gate Water,

*Thank you so much for giving
us the Water Wise Program. I like the
water spring ,and the toilet blue
tablets.*

Sincerely your friend, Noemy

Dear Golden Gate Water,

Thank you so much for giving us the water wise program my
parents are LOVING this program and i am to, the program is
saving water and my parents use a lot of water the faucets work
really well.

Sincerely, Austin

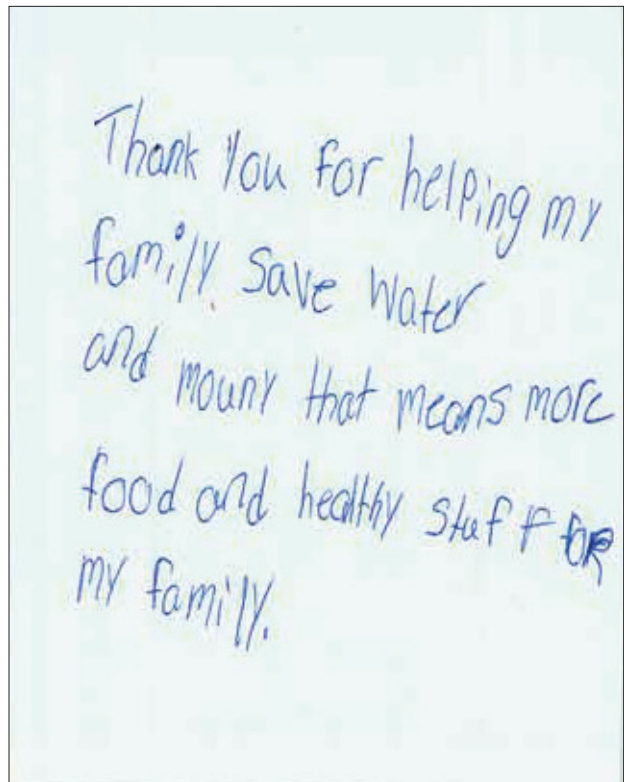
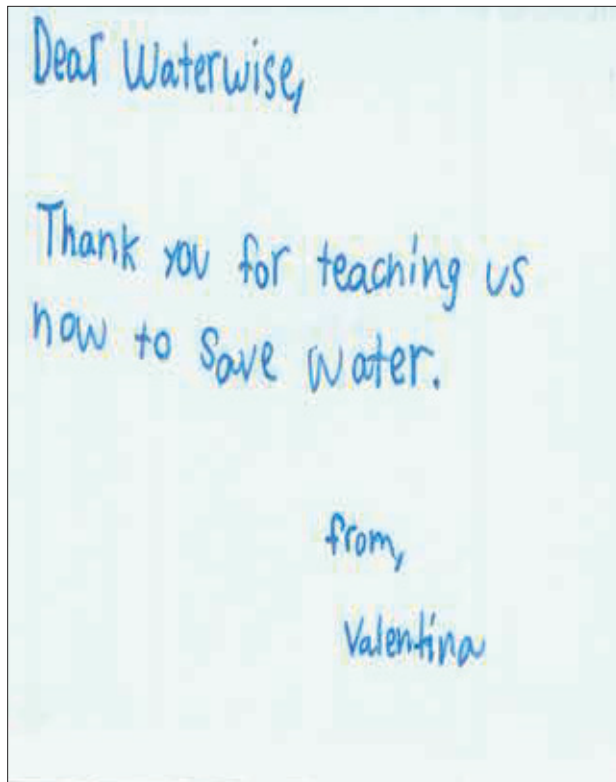
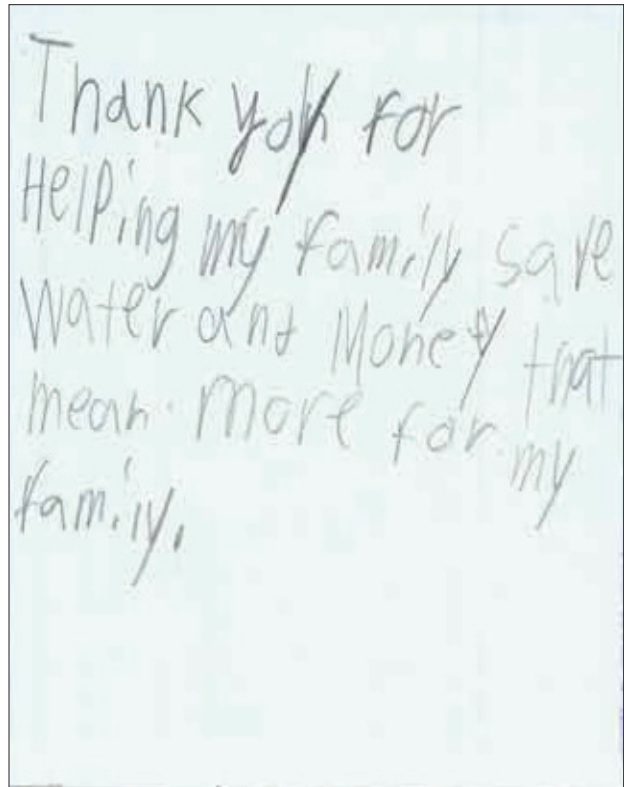
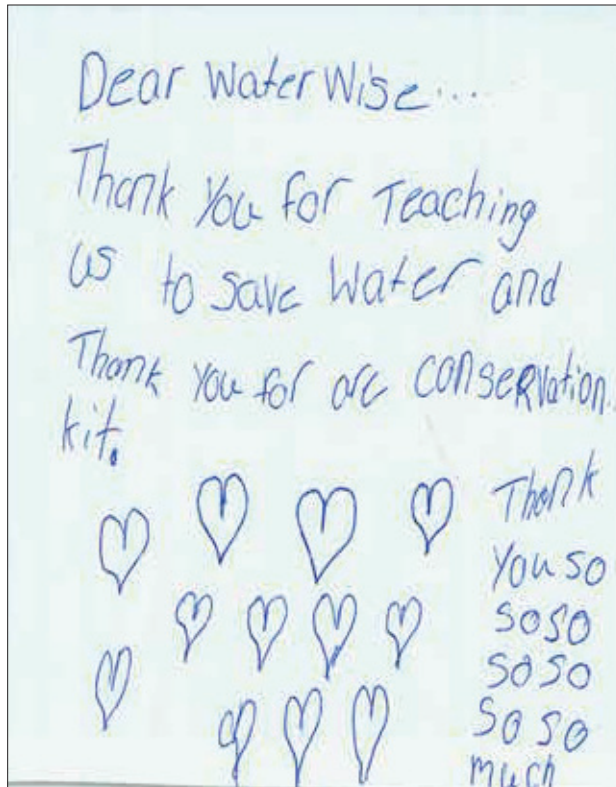
Dear Golden Gate Water,

Thank You for the Water Wise program! It really helped
understand how much water humans should use. Now me
and my family are using water carefully. I think water wise
program is awesome.

Sincerely,
MARTELY

Student Letters

(continued)



Student Letters

(continued)

Dear Waterwise,
 Thank you for teaching us how
 to save water and now I
 know if im wasting water
 or not.

Thank you very
 much

Dear Golden Gate Water
 thank you so much for giving us
 the waterwise program. I really liked
 the shower head. I think it is cool!

your friends
 Brionna

Dear Golden Gate Water

Thank you so much for the water
 wise Program you are the best Thank you
 so much,

Sincerely, Jasmine

To: Golden Gate Waterwise

thank you for teaching
 us to save water
 thank you for the kit
 also thank you for helping
 my family save money

from Simon

Dear waterwise
 Thank you for all
 the stuff it helps
 us all save money
 and it means alot to me

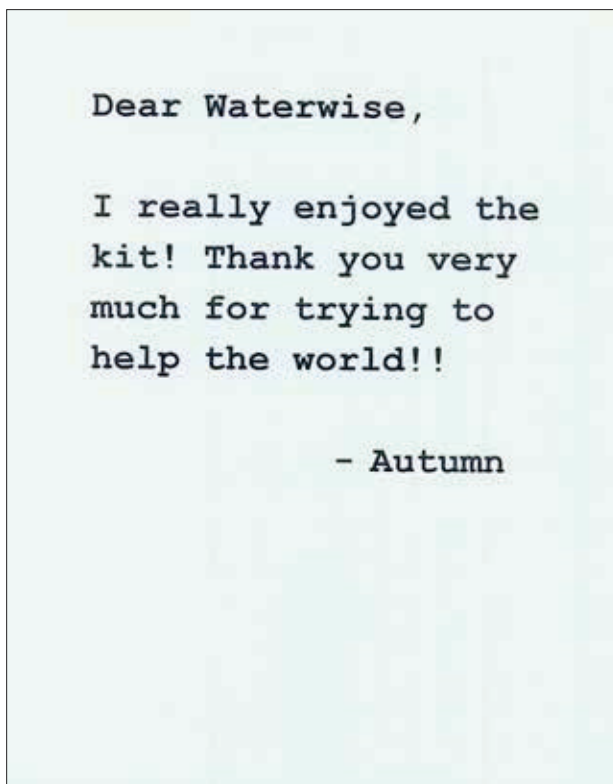
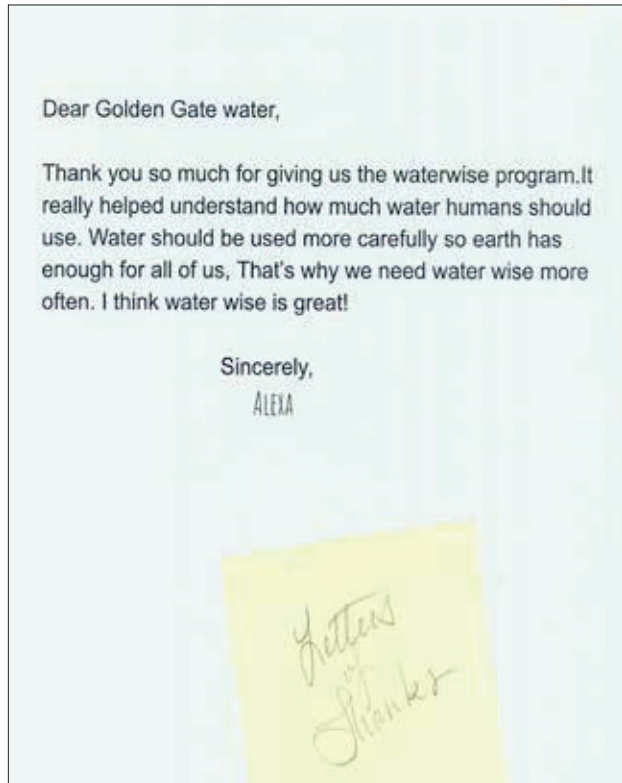
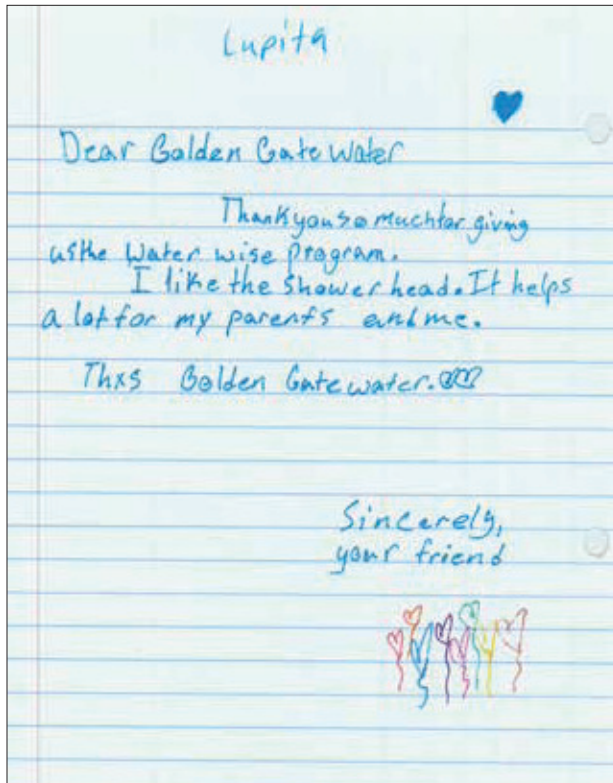
From Iacelle

Dear golden gate Water,
 Thank You so much for giving
 us the Waterwise Program.
 Thank You its perfect. I love
 The Shower head.

Sincerely,
 William

Student Letters

(continued)





RESOURCEACTION
PROGRAMS

A FRANKLIN ENERGY COMPANY

976 United Circle • Sparks, NV 89431
www.resourceaction.com • (888) 438-9473
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LOS OSOS WATERWISE™ PROGRAM SUMMARY REPORT

2018-2019

SUBMITTED BY:



RESOURCEACTION
PROGRAMS

A FRANKLIN ENERGY COMPANY

Los Osos WaterWise™ Program Summary Report 2018-2019

Made possible by:



Golden State
Water Company

A Subsidiary of American States Water Company

Submitted by:



A FRANKLIN ENERGY COMPANY

August 2019

*“As a teacher, I liked teaching about
where their water comes from.”*

Marianne Emery, Teacher

Baywood Elementary School

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“The act of installing and monitoring new energy efficiency devices in their homes allows students to put their learning into practice.”

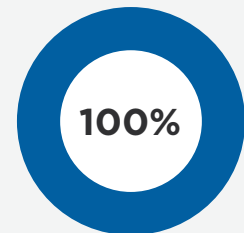
Executive Summary

Resource Action Programs® (RAP), a Franklin Energy Company, is pleased to present this Program Summary Report to Golden State Water, which summarizes the 2018-2019 Los Osos WaterWise™ Program. The program was implemented in the Golden State Water service area in the state of California by 63 teachers, students, and their families.

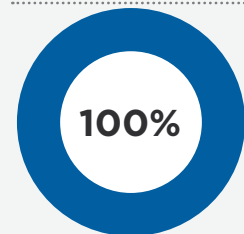
The following pages provide an overview of the program and materials, outline of program implementation, introduction to the program team, description of program enhancements, impact of the program, and summary of results from the home activities. In addition to this information, evaluations, letters, and comments are provided for a glimpse into actual participant feedback. Lastly, projected savings from the individual measures found within the WaterWise Kit are also included.

Participant Satisfaction

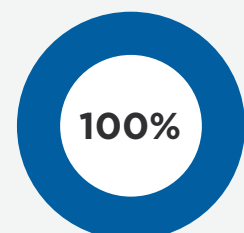
A successful program excites and engages participants. Students, parents, and teachers are asked to evaluate the program and provide personal comments. A sample of the feedback is given in the margin. >



Teachers who indicated they would recommend this program to other colleagues.

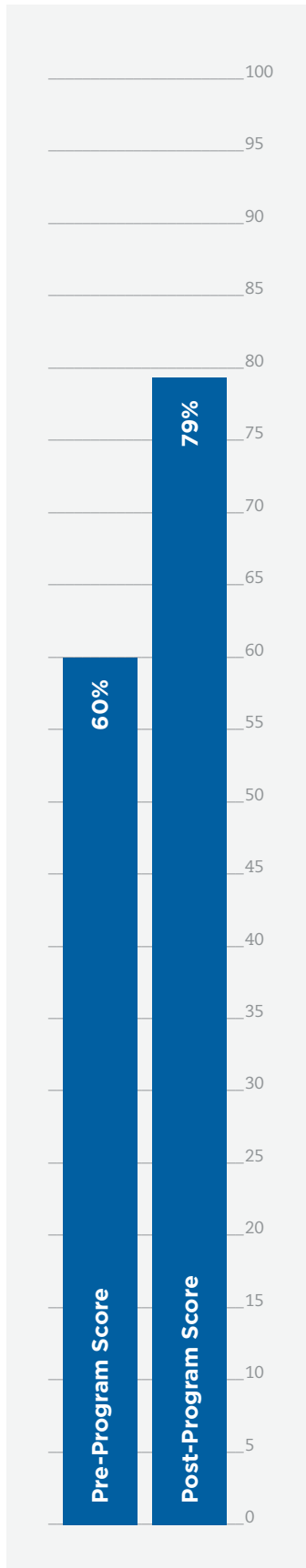


Teachers who indicated the products in the kit were easy for students to use.



Teachers who indicated they would conduct this program again.

A summary of responses can be found in Appendix D.



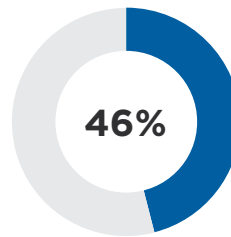
Knowledge Gained

Identical tests were taken by students prior to the program and again upon program completion to measure knowledge gained. Scores and subject knowledge improved from **60%** to **79%**.

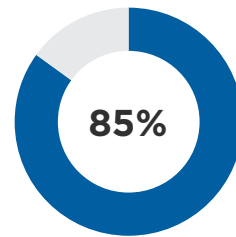
Data Obtained

Home surveys were performed by students and their families, collecting household demographic and consumption data along with program participation information.

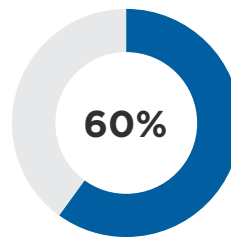
A summary of responses can be found in Appendix B.



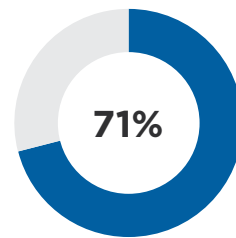
Students who reported that their family homes were owned.



Students who reported that their water was heated by natural gas.



Students who reported that their home has a dishwasher.



Students who reported that their home was built before 1992.

Water and Energy Savings Results

In addition to educating students and their parents, a primary program goal is to generate cost-effective water and energy savings. Student home surveys not only provided the data used in the savings projections, but also reinforced the learning benefits.

Projected Resource Savings


A list of assumptions and formulas used for these calculations can be found in Appendix A.

PROJECTED ANNUAL SAVINGS	
103,019	gallons of water saved
421	therms of gas saved
1,514	kWh of electricity saved
103,019	gallons of wastewater saved

PROJECTED LIFETIME SAVINGS	
714,516	gallons of water saved
3,214	therms of gas saved
11,602	kWh of electricity saved
714,516	gallons of wastewater saved

PROJECTED ANNUAL SAVINGS PER HOME	
1,635	gallons of water saved
7	therms of gas saved
24	kWh of electricity saved
1,635	gallons of wastewater saved

PROJECTED LIFETIME SAVINGS PER HOME	
11,342	gallons of water saved
51	therms of gas saved
184	kWh of electricity saved
11,342	gallons of wastewater saved



*“Participants and their
parents/guardians realize
actual water and energy
savings within their home,
benefitting two generations.”*

Program Overview

The Los Osos WaterWise™ Program, a school-based water and energy efficiency education program, is designed to generate immediate and long-term resource savings by bringing interactive, real-world education home to students and their families. The 2018-2019 program was taught in 5th grade throughout the Golden State Water service area.

The Los Osos WaterWise Program team identifies and enrolls students and teachers within the designated service area. The program physically begins with classroom discussions using a Student Guide that provides the foundations of using water and energy efficiently. It is followed by hands-on, creative, problem-solving activities led by the classroom teacher.

All program materials support state and national academic standards to allow the program to fit easily into a teacher's existing curriculum and requirements. The participating classroom teachers follow the Teacher Book and lesson plan. Information is given to guide lessons throughout the program in order to satisfy each student's individual needs, whether they are visual, auditory, or kinesthetic learners.

The WaterWise Kit and Student Workbook comprise the take-home portion of the program. Students receive a kit containing high-efficiency measures they use to install within their homes. With the help of their parents/guardians, students install the kit measures and complete a home survey. The act of installing and monitoring new water and energy efficiency devices in their homes allows students to put their learning into practice. Here, participants and their parents/guardians realize actual water and energy savings within their home, benefitting two generations.

A critical element of RAP program design is the use of new knowledge through reporting. At the end of the program, the Los Osos Program team tabulates all participant responses—including home survey information, teacher responses, student letters, and parent feedback—and generates this Program Summary Report.

“For more than 26 years, Resource Action Programs (RAP) has designed and implemented Measure-Based Education® programs that inspire change in household energy and water use while delivering significant, measurable resource savings.”

Program Materials

Each participant in the Los Osos WaterWise™ Program receives classroom materials and water and energy efficiency kits containing high-efficiency measures to perform the program's take-home activities. Program materials for students, parents/guardians, and teachers are outlined below.

Each Student & Teacher Receives

Student Guide

Student Workbook

Parent Letter/Pledge Form*

Student Survey Form

Certificate of Achievement

WaterWise Kit Containing:

- High-Efficiency Showerhead
- Kitchen Faucet Aerator
- Bathroom Faucet Aerator
- Mini Tape Measure
- Digital Thermometer
- Rain/Drip Gauge
- Flow Rate Test Bag
- Natural Resources Fact Chart
- Toilet Leak Detector Tablets
- Parent/Guardian Program Evaluation

"GetWise" Wristbands

Program Website Access at Getwise.org

Toll-Free HELP Line

Each Teacher/Classroom Receives

Teacher Book

Step-by-Step Program Checklist

Lesson Plans

Teacher Survey Form

California State and National Academic

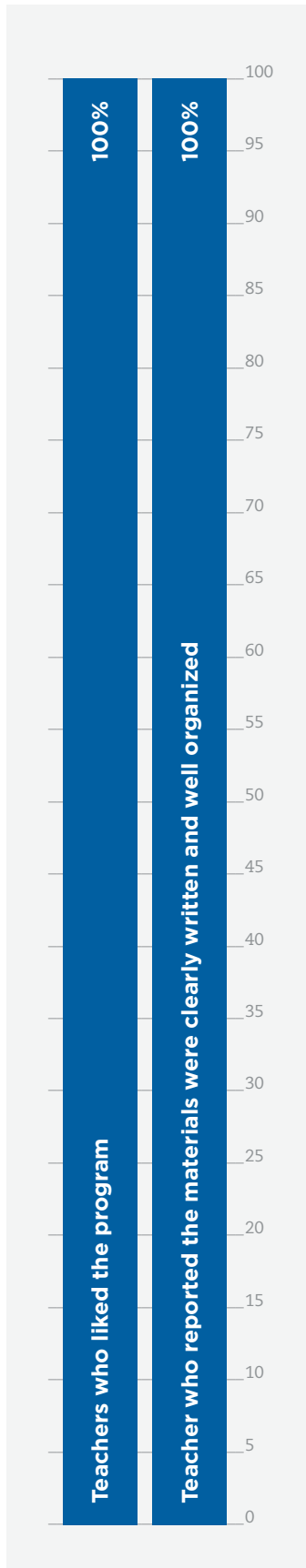
Standards Chart

Pre/Post Test Answer Keys

Water Poster

Self-Addressed Postage-Paid Envelope

* Materials / Installation Instructions provided in English and Spanish

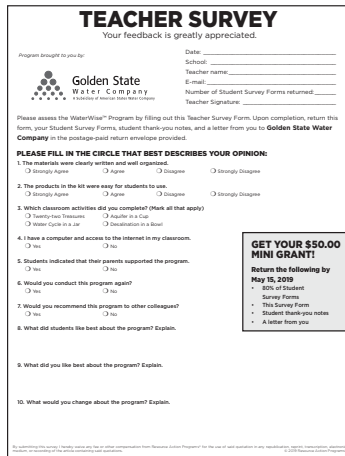


Custom Branding

In addition to increasing resource awareness and efficiency, the program has been designed to strengthen bonds between Golden State Water and the community. One of the steps taken to ensure the greatest possible exposure is to feature the Golden State Water logo throughout each WaterWise Kit. In addition to the kit, the Teacher Survey Form and Parent Letter/Pledge Form also feature Golden State Water branding.



Program Materials



TEACHER SURVEY
Your feedback is greatly appreciated.

Program brought to you by: **Golden State Water Company**
A subsidiary of Southern California Edison

Date: _____
School: _____
Teacher name: _____
E-mail: _____
Number of Student Survey Forms returned: _____
Teacher Signature: _____

Please assess the WaterWise™ Program by filling out this Teacher Survey Form. Upon completion, return this form, your Student Survey Forms, student thank-you notes, and a letter from you to **Golden State Water Company** in the postage-paid return envelope provided.

PLEASE FILL IN THE CIRCLE THAT BEST DESCRIBES YOUR OPINION:

1. The materials were clearly written and well explained.
☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

2. The products in the kit were easy for students to use.
☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

3. Which classroom activities did you complete? (Mark all that apply)
☐ Activity Two: Worksheets ☐ Activity in a Bag ☐ Discussion in a Bag
☐ Water Cycle in a Jar

4. I have a computer and access to the Internet in my classroom.
☐ Yes ☐ No

5. Students indicated that their parents supported the program.
☐ Yes ☐ No

6. Would you conduct this program again?
☐ Yes ☐ No

7. Would you recommend this program to other colleagues?
☐ Yes ☐ No


8. What did students like best about the program? Explain.

9. What did you like best about the program? Explain.

10. What would you change about the program? Explain.

GET YOUR \$50.00 MINI GRANT!
Return the following by **May 15, 2019**
 • 80% of Student Survey Forms
 • This Survey Form
 • A letter from you

Teacher Survey Form



PARENTS

Golden State Water Company
A subsidiary of Southern California Edison

CONGRATULATIONS!
Your child's class has been selected to participate in the award-winning WaterWise™ program. The program is designed to teach your child the value of water and energy and help you save money on your utility bills. This program is being provided by **Golden State Water Company** at NO COST to you, your child's school or the school district.

The average U.S. household pays at least \$2,000 per year in utility bills and can without thought save just a few simple changes. Your child will be given a kit which includes FIVE high-quality water and energy saving products that enable the latest energy efficiency technology.

To participate, please do the following:

- Have your child talk to you about the work they would like to do to save water and energy and complete the Pledge form located on the next page.
- Mail it off to us by June 15, 2019. You and your child can receive all the activities so free them to complete it at your child's school or home. For more information, visit www.getwise.org for video instructions or call 1-888-GET-WISE.
- Mark with your child to receive all of the fun and excitement in the Student Workbook.

The WaterWise Program will be an easy and fun experience for your entire family and you will be able to make your child feel like a hero in your home and community, but also your family will immediately benefit from lower utility bills. Thank you for your participation.

LET'S GET STARTED!

SIGN + INSTALL = SAVE \$\$\$

QUESTIONS? • 1-888-GET-WISE • www.getwise.org

STUDENTS

PLEDGE FORM

Name: _____ Date: _____
School: _____ Teacher: _____

Pledging to save water and energy is an important step in conserving our natural resources and will save your family money on utility bills. As you go through the program, you will learn what is a WaterWise family and how to save. The pledge form shows you the steps to take to save water and energy. Taking the Pledge shows that you want to be more water and energy efficient to save your family's money.

TAKE THE PLEDGE

We have helped you take the first step in saving water and energy. All you have to do to complete the Pledge is take one simple step each day. Also, we have more pledges. See how you will be more water and energy efficient at home, at school, and in the community.

1. I pledge to do my part by turning off all the lights in my room to save water and energy as well as reduce my family's utility bills.

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

SIGN THE PLEDGE

Teacher and student sign and date the Pledge form. I promise to use water and energy efficiently at home.

Signature: _____ Parent Signature: _____

Golden State Water Company
A subsidiary of Southern California Edison

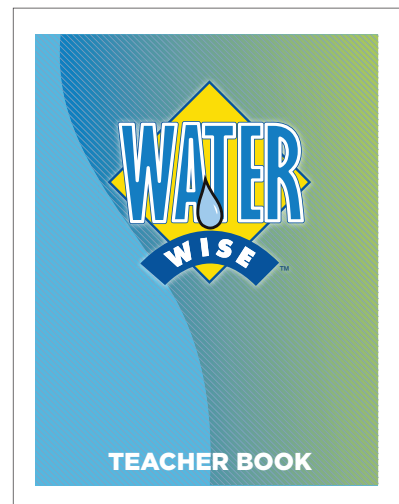
Parent Letter/Pledge Form



Student Guide



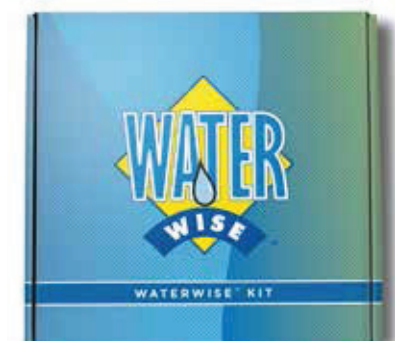
Student Workbook



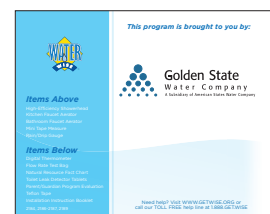
Teacher Book



Certificate of Achievement



Kit Box



Kit Label

“All program materials support state and national academic standards to allow the program to fit easily into a teacher’s existing curriculum and requirements.”

Program Implementation

The 2018-2019 Los Osos WaterWise™ Program followed this comprehensive implementation schedule:

1. Identification of California state and national academic standards & benchmarks
2. Curriculum development and refinement (completed annually)
3. Curriculum correlation to California state and national academic standards & benchmarks
4. Materials modification to incorporate Golden State Water branding
5. Incentive program development
6. Teacher/school identification - with Golden State Water approval
7. Teacher outreach and program introduction
8. Teachers enrolled in the program individually
9. Implementation dates scheduled with teachers
10. Program material delivered to coincide with desired implementation date
11. Delivery confirmation
12. Periodic contact to ensure implementation and teacher satisfaction
13. Program completion incentive offered
14. Results collection
15. Program completion incentive delivered to qualifying teachers
16. Thank you cards sent to participating teachers
17. Data analysis
18. Program Summary Report generated and distributed

Participating teachers are free to implement the program to coincide with their lesson plans and class schedules. Appendix C provides a comprehensive list of classrooms in grade 5 that participated during the 2018-2019 school year.

Resource Action Programs (RAP) has been in the business of designing and implementing energy and water efficiency programs for nearly three decades. Throughout this time we've built an expert team of industry professionals that deliver a seamless program to achieve your goals.

We designed the Los Osos WaterWise™ Program in our program center from the ground up. Working in conjunction with Golden State Water, we identified goals, desired outcomes of the program, and specific materials' customization. The result is a stimulating program that delivers significant and measurable resource savings. The Los Osos WaterWise Program features a proven blend of innovative education, comprehensive implementation services, and hands-on activities to put efficiency knowledge to work in homes throughout the Los Osos service territory.

The Los Osos WaterWise Program is a reflection of true teamwork. On behalf of the entire implementation team at Resource Action Programs, I would like to thank you for the opportunity to design and implement the Los Osos WaterWise Program. It has been a pleasure working with you. I look forward to many more years of program success.

Sincerely,



Kevin Flom
Program Consultant



Chase Griswold
Program Manager

Program Team

Program Team

The success of the Los Osos WaterWise™ Program is owed to a cross-functional implementation team chosen specifically to meet the goals of the program. We incorporated both a PMP® certified Program Manager and a CEM® designated energy analyst to ensure the program hits key milestones and delivers results. These thought leaders are supported by an integral mix of specialists working in unity to accomplish your program objectives. The Los Osos WaterWise Program implementation team consisted of the following:

Outreach

Our outreach team is the face of the Los Osos WaterWise Program, introducing teachers to the program, and providing support throughout implementation to guarantee the program's success in the classroom. This group builds relationships and keeps teachers engaged in program execution year after year.

Graphic Design and Marketing

Expertly-designed kits and program materials are a result of our Graphic Design and Marketing teams. This group provides brand alignment and marketing strategies to ensure program branding is within guidelines. Additionally, this team facilitates copy and art direction and works with education to develop end-user activities.

Education

Led by a Ph.D. educator having both classroom and administration leadership experience, this team is responsible for the development of educational content as well as classroom energy literacy and engagement. The group also ensures the program's content is aligned with California state expectations in science, math, and language as well as the rigorous expectations of STEM (Science, Technology, Engineering, and Math).

Information Technology

We leave IT strategy and cyber security in the hands of our experts. This team built and manages the integrated systems responsible for seamlessly blending operations, driving automation, and maximizing participation in the Los Osos WaterWise Program. This group provides the managed data services and software in support of outreach, enrollment, order processing, fulfillment, data collection and reporting.

Warehouse and Logistics

Last but not least, our warehouse and logistics teams guarantee Los Osos WaterWise program materials reach the classroom on-time and without errors. This group provides printing, purchasing, production, quality assurance & control, warehousing and shipping for all program materials. Additionally, this team ensures that all materials are consistent with orders and confirms delivery.

“Upon completion of the program, participating families are asked to complete a home survey to assess their resource use, verify product installation, provide demographic information, and measure participation rates.”

Program Impact

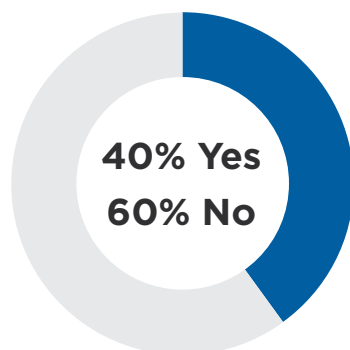
The Los Osos WaterWise™ Program has had a significant impact within the community. As illustrated below, the program successfully educated participants about water and energy efficiency while generating resource savings through the installation of efficiency measures in homes. Home survey information was collected to track projected savings and provide household consumption and demographic data. Program evaluations and comments were collected from teachers, students, and parents.

A. Home Survey

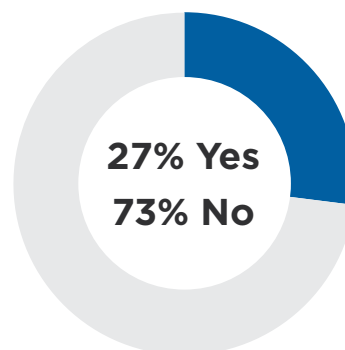
Upon completion of the program, participating families are asked to complete a home survey to assess their resource use, verify product installation, provide demographic information, and measure participation rates. A few samples of questions asked are below while a complete summary of all responses is included in the appendices.

Did you work with your family on this program?
Did your family change the way they use water?

Yes - 40%
Yes - 27%



Students who indicated they worked with their family on this program.

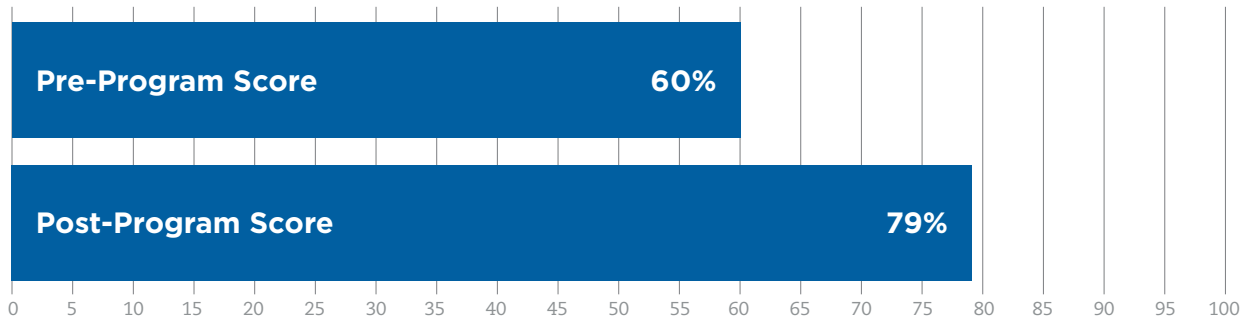


Students who indicated their family changed the way they use water.

B. Pre-Program and Post-Program Tests

Students were asked to complete a 10-question test before the program was introduced and then again after it was completed to determine the knowledge gained through the program. The average student answered **6.0** questions correctly prior to being involved in the program and then improved to answer **7.9** questions correctly following participation.

Scores improved from 60% to 79%.



C. Home Activities

As part of the program, parents and students installed resource efficiency measures in their homes. They also measured the pre-existing devices to calculate savings that they generated. Using the family habits collected from the home survey as the basis for this calculation, 63 households are expected to save the following resource totals. Savings from these actions and new behaviors will continue for many years to come.

Projected Resource Savings

A list of assumptions and formulas used for these calculations can be found in Appendix A.

Number of Participants:	63	
	Annual	Lifetime
Projected reduction from Showerhead retrofit:	39,884	398,840 gallons
Product Life: 10 years	222	2,217 therms
	806	8,063 kWh
Projected reduction from Kitchen Faucet Aerator retrofit:	33,012	165,062 gallons
Product Life: 5 years	136	679 therms
	482	2,410 kWh
Projected reduction from Bathroom Faucet Aerator retrofit:	15,466	77,330 gallons
Product Life: 5 years	64	318 therms
	226	1,129 kWh
Projected reduction from the Toilet Leak repair:	14,657	73,285 gallons
Estimated Useful Life (EUL): 5 years		
TOTAL PROJECTED PROGRAM SAVINGS:	103,019	714,516 gallons
	421	3,214 therms
	1,514	11,602 kWh
TOTAL PROJECTED PROGRAM SAVINGS PER HOUSEHOLD:	1,635	11,342 gallons
	7	51 therms
	24	184 kWh

D. Teacher Program Evaluation

Program improvements are based on participant feedback received. One of the types of feedback obtained is from participating teachers via a Teacher Program Evaluation Form. They are asked to evaluate relevant aspects of the program and each response is reviewed for pertinent information. The following is feedback from the Teacher Program Evaluation for the Los Osos WaterWise Program.

Teacher Response

(A summary of responses can be found in Appendix D)

- 100%** of participating teachers indicated they would conduct the program again given the opportunity.
- 100%** of participating teachers indicated they would recommend the program to their colleagues.

What did students like best about the program? Explain.

"The kits."

Marianne Emery, Baywood Elementary School

What did you like best about the program? Explain.

"Teaching about where their water comes from."

Marianne Emery, Baywood Elementary School

E. Teacher Letters

Dear Golden State Water,

Thank you for the opportunity to teach this program. I feel it is important for students to be knowledgeable about water, where it comes from and how to respect it. This program brought awareness to the need to save water. The kits made it doable as many families ~~are~~ do not have the funds to buy the items.

Sincerely,

Mananne Emery

F. Student Letters

Dear Golden State Water,

Thank you for the Water Wise kit. I use the tape measure and the little rain collector. I didn't use the other stuff but some other people did and they really liked it. I learned a lot of stuff from the book such as 97% of the water on earth is salt water, 2% of the water is glaciers and ice caps and 1% of the water on earth is rivers, lakes and groundwater. I really liked the Twenty-Two Treasures unscrambling game and Efficiency Tips game. I learned so much from just reading it and with how much detail there was, it helped me a lot.

Sincerely,
Brooklyn Agapay

Dear Golden State Water,

Thank you for the Water Wise kit. The kit made it fun to learn about water. My family has been trying to save as much water as they can because of the Water Wise kit and Water Wise student guide. The Water Wise student guide makes it more easy to understand why we should save water. Thank you very much.

From Sedona

Dear Golden state water,

Thank you for the water kit. It was fun to do the experiments that came in the kit.

And I also like that we got a book that we got to do a vocabulary treasure hunt and also a crossword puzzle, a hidden message graph, and efficiency tips it was fun to get to do it and I learned more to not waste water and learned how to save water more.

from: Izzi

Dear Golden State water,

Thank you for the water wise kit. I liked because it told change things in my house we started to waste a lot of water put hooks to you we are saving water and when I got the water wise kit my dad put the shower head and said then we are saving water it was fun doing this in my house my dad really liked the shower head thank you for the water wise kit.

Sincerely: Deshaun H.

Student Letters

(continued)

Dear Golden state water,

Thank you for the water wise kit. thank you for the waterwise kit. Also I learned that you should drop your tissue in the trash, instead of the toilet so you don't waste water. Also turn off the water while brushing your teeth.

Sincerely, Andres

Dear Golden State Water,

Thank you for the water wise kit. The kit was amazing. The newer head of the shower was very good and useful. It's better than the old one I had. The kit was nice and good for not wasting water - each saving water.

Sincerely, Jazzy

Dear Golden State Water,

Thank you for the water wise kit. My family kinda started to use water differently. I'm trying to also. so far I'm doing good! In the kit I used the shower head I have learned alot from our water wise books.

From,
Hailey Brannan!

Dear Golden State water,

Thank u for the water wise kit. and I learned that if you drop ice cube put it in a glass in store up the sink and other useful things.

Sincerely,
Dominic


Dear Golden state water,

Thank you for the water wise kit. I learned a lot about saving water in the water wise student guide.

Sincerely Nico.

Dear Golden state water,

Thank you for the water wise kit. And also the green water wise book and the blue water wise book.



Sincerely, Isaiah H.

Dear Golden State Water,

Thank you for the water wise kit.

I learned that the salt in the ocean is called salina. I didn't know 90% of the world's water we drink.

Sincerely,
Eunice

Dear Golden state water,

Thank you for the water wise kit.

I used the water wise kit. I installed the shower thing (I forgot what's it called) I feel like it saved more water because I see more water when I wash the dishes.

Sincerely,
Michelle

“RAP utilizes an extensive network of educators for program feedback. This feedback ensures that educational components meet the changing needs of educators, keep information relevant to students, and, in turn, provide increased water and energy literacy amongst program participants.”

Appendices

Appendix A

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Projected Savings from Showerhead Retrofit

Showerhead retrofit inputs and assumptions:

Average household size:	4.63	people ¹
Average number of full bathrooms per home:	1.63	full bathrooms per home ¹
% of water heated by gas:	84.62%	¹
% of water heated by electricity:	15.38%	¹
Installation / participation rate of:	19.35%	¹
Average showerhead has a flow rate of:	2.18	gallons per minute ¹
Retrofit showerhead has flow rate of:	1.60	gallons per minute ¹
Number of participants:	63	¹
Shower duration:	8.20	minutes per day ²
Showers per day per person:	0.67	showers per day ²
Product life:	10.00	years ³

Projected Water Savings:

Showerhead retrofit projects an annual reduction of:	39,884	gallons ⁴
Showerhead retrofit projects a lifetime reduction of:	398,840	gallons ⁵

Projected Electricity Savings:

Showerhead retrofit projects an annual reduction of:	806	kWh ^{2,6}
Showerhead retrofit projects a lifetime reduction of:	8,063	kWh ^{2,7}

Projected Natural Gas Savings:

Showerhead retrofit projects an annual reduction of:	222	therms ^{2,8}
Showerhead retrofit projects a lifetime reduction of:	2,217	therms ^{2,9}

¹ Data reported by program participants.

² (March 4, 2010). EPA WaterSense® Specification for Showerheads Supporting Statement. Retrieved from http://www.epa.gov/WaterSense/docs/showerheads_finalsupstat508.pdf

³ Provided by manufacturer.

⁴ [(Average Household Size x Shower Duration x Showers per Day per Person) ÷ Average Number of Full Bathrooms per Home] x (Average Showerhead Flow Rate - Retrofit Showerhead Flow Rate) x Number of Participants x Installation Rate x 365 days

⁵ [(Average Household Size x Shower Duration x Showers per Day per Person) ÷ Average Number of Full Bathrooms per Home] x (Average Showerhead Flow Rate - Retrofit Showerhead Flow Rate) x Number of Participants x Installation Rate x 365 days x Product Life

⁶ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.18 kWh/gal x % of Water Heated by Electricity

⁷ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.18 kWh/gal x % of Water Heated by Electricity x Product Life

⁸ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.009 Therms/gal x % of Water Heated by Natural Gas

⁹ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.009 Therms/gal x % of Water Heated by Natural Gas x Product Life

Projected Savings from Kitchen Faucet Aerator Retrofit

Kitchen Faucet Aerator retrofit inputs and assumptions:

Average household size:	4.63	people ¹
% of homes with a dishwasher:	60.00%	¹
% of homes without a dishwasher:	40.00%	¹
% of water heated by gas:	84.62%	¹
% of water heated by electricity:	15.38%	¹
Installation / participation rate of:	13.00%	¹
Number of participants:	63	¹
Average kitchen faucet aerator has a flow rate of:	2.50	gallons per minute ²
Retrofit kitchen faucet aerator has flow rate of:	1.50	gallons per minute ³
Product life:	5.00	years ³
Length of use without dishwasher:	15.00	minutes per day ⁴
Length of use without dishwasher (each family member):	1.00	minute per day ⁴
Length of use with dishwasher:	3.00	minutes per day ⁴
Length of use with dishwasher (each family member):	0.50	minutes per day ⁴

Projected Water Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	33,012	gallons ⁵
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	165,062	gallons ⁶

Projected Electricity Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	482	kWh ^{4,7}
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	2,410	kWh ^{4,8}

Projected Natural Gas Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	136	therms ^{4,9}
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	679	therms ^{4,10}

¹ Data reported by program participants.

² Vickers, Amy (2002). *Water Use and Conservation*. Amherst, MA: WaterFlow Press.

³ Provided by manufacturer.

⁴ Quantec, LLC. (2008). *Impact of Flipping the Switch: Evaluating the Effectiveness of Low Income Residential Energy Education Programs*. Portland: Drakos, Jamie et al.

⁵ $[\text{Length of use without dishwasher} + [\text{Average household size} \times \text{Length of use without dishwasher (each family member)}]] \times \% \text{ of homes without dishwasher} + [\text{Length of use with dishwasher} + [\text{Average household size} \times \text{Length of use with dishwasher (each family member)}]] \times \% \text{ of homes with dishwasher} \times [\text{Average Kitchen Aerator flow rate} - \text{Retrofit Kitchen Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days}$

⁶ $[\text{Length of use without dishwasher} + [\text{Average household size} \times \text{Length of use without dishwasher (each family member)}]] \times \% \text{ of homes without dishwasher} + [\text{Length of use with dishwasher} + [\text{Average household size} \times \text{Length of use with dishwasher (each family member)}]] \times \% \text{ of homes with dishwasher} \times [\text{Average Kitchen Aerator flow rate} - \text{Retrofit Kitchen Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days} \times \text{Product Life}$

⁷ $\text{Projected Annual Water Savings} \times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁸ $\text{Projected Lifetime Water Savings} \times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁹ $\text{Projected Annual Water Savings} \times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

¹⁰ $\text{Projected Lifetime Water Savings} \times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

Projected Savings from Bathroom Faucet Aerator Retrofit

Bathroom Faucet Aerator retrofit inputs and assumptions:

Average household size:	4.63	people ¹
% of water heated by gas:	84.62%	¹
% of water heated by electricity:	15.38%	¹
Installation / participation rate of:	6.45%	¹
Number of participants:	63	¹
Average bathroom faucet aerator has a flow rate of:	2.50	gallons per minute ²
Retrofit bathroom faucet aerator has flow rate of:	1.00	gallons per minute ³
Product life:	5.00	years ³
Length of use (per family member):	1.50	minutes per day ⁴

Projected Water Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	15,466	gallons ⁵
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	77,330	gallons ⁶

Projected Electricity Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	226	kWh ^{4,7}
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	1,129	kWh ^{4,8}

Projected Natural Gas Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	64	therms ^{4,9}
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	318	therms ^{4,10}

¹ Data reported by program participants.

² Vickers, Amy (2002). *Water Use and Conservation*. Amherst, MA: WaterPlow Press.

³ Provided by manufacturer.

⁴ Quantec, LLC. (2008). *Impact of Flipping the Switch: Evaluating the Effectiveness of Low Income Residential Energy Education Programs*. Portland: Drakos, Jamie et al.

⁵ $[\text{Length of use (each family member)} \times \text{Average household size}] \times [\text{Average Bathroom Aerator flow rate} - \text{Retrofit Bathroom Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days}$

⁶ $[\text{Length of use (each family member)} \times \text{Average household size}] \times [\text{Average Bathroom Aerator flow rate} - \text{Retrofit Bathroom Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days} \times \text{Product Life}$

⁷ $\text{Projected Annual Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁸ $\text{Projected Lifetime Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁹ $\text{Projected Annual Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

¹⁰ $\text{Projected Lifetime Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

Projected Savings from Toilet Leak Repair

Toilet Leak repair inputs and assumptions:

Number of participants:	63	¹
% of toilets leaking:	6.45%	¹
% of toilets where the leak was repaired:	28.57%	¹
Number of homes with fixed toilet leaks:	1.16	¹
USGS gallons lost per year per leak:	12,621.29	GPY per leak ²
EUL:	5.00	years ³

Projected Water Savings:

Toilet Leak repair projects an annual reduction of:	14,657	gallons/year ⁴
Toilet Leak repair projects a lifetime reduction of:	73,285	gallons ⁵

¹ Data reported by program participants.

² <http://www.epa.gov/WaterSense/pubs/fixleak.html>

³ Estimation of years before toilet begins leaking again. Frontier and Associates

⁴ USGS gallons lost per year per leak x 1 leak per home x Number of homes with fixed toilet leaks

⁵ USGS gallons lost per year per leak x 1 leak per home x Number of homes with fixed toilet leaks x Product Life

Home Check-Up

1 What type of home do you live in?		
Single family home (mobile)		3%
Single family home (manufactured)		3%
Single family home (built)		67%
Multi-family Home (2-4 units)		20%
Multi-family home (5-20 units)		0%
Multi-family home (21+ units)		7%
2 Was your home built before 1992?		
Yes		71%
No		29%
3 Is your home owned or rented?		
Owned		46%
Rented		54%
4 How many kids live in your home (age 0-17)?		
1		20%
2		57%
3		20%
4		3%
5+		0%
5 How many adults live in your home (age 18+)?		
1		10%
2		57%
3		10%
4		13%
5+		10%
6 Does your home have programmable outdoor sprinkler system?		
Yes		21%
No		79%
7 Does your home have a dishwasher?		
Yes		60%
No		40%
8 How many half-bathrooms are in your home?		
0		77%
1		20%
2		3%
3		0%
4+		0%

Due to rounding of numbers, percentages may not add up to 100%

Home Check-Up

(continued)

9 How many full bathrooms are in your home?

1	37%
2	63%
3	0%
4	0%
5+	0%

10 How many toilets are in your home?

1	23%
2	73%
3	3%
4	0%
5+	0%

11 How is your water heated?

Natural Gas	85%
Electricity	15%

Due to rounding of numbers, percentages may not add up to 100%

Home Activities

1 What is the flow rate of your old showerhead?		
0 - 1.0 gpm		0%
1.1 - 1.5 gpm		0%
1.6 - 2.0 gpm		25%
2.1 - 2.5 gpm		75%
2.6 - 3.0 gpm		0%
3.1+ gpm		0%
2 Did your family install the new High-Efficiency Showerhead?		
Yes		19%
No		81%
3 If you answered "yes" to question 2, what is the flow rate of your new showerhead?		
0 - 1.0 gpm		0%
1.1 - 1.5 gpm		20%
1.6 - 1.75 gpm		80%
4 Did your family install the new Kitchen Faucet Aerator?		
Yes		13%
No		87%
5 Did your family install the new Bathroom Faucet Aerator?		
Yes		6%
No		94%
6 Did your family lower your water heater settings?		
Yes		4%
No		96%
7 Was your toilet leaking?		
Yes		6%
No		94%
8 If you answered "yes" to question 7, were the leaks repaired?		
Yes		29%
No		71%
9 How many faucets were leaking?		
0		90%
1		7%
2		3%
3		0%
4		0%
5		0%

Due to rounding of numbers, percentages may not add up to 100%

Home Activities

(continued)

10 If you answered that there were faucets leaking in question 9, were the leaks repaired?		
Yes, all of them		0%
Yes, some of them		8%
None		92%
11 Did your family adjust the outdoor watering schedule?		
Yes		3%
No		97%
12 Did your family change the way they water outdoors?		
Yes		3%
No		97%
13 Did you work with your family on this Program?		
Yes		40%
No		60%
14 Did your family change the way they use water?		
Yes		27%
No		73%
15 How would you rate the WaterWise™ Program?		
Great		24%
Pretty good		41%
Okay		21%
Not so good		14%

Due to rounding of numbers, percentages may not add up to 100%

Participant List

SCHOOL	TEACHER	T	S
Baywood Elementary School	Marianne Emery	1	31
Baywood Elementary School	Becky Stocking	1	30
TOTALS		2	61
TOTAL PARTICIPANTS		63	

Note: "T" represents number of teachers and "S" represents number of students

Teacher Program Evaluation Data

1 The materials were clearly written and well organized.		
Strongly Agree		100%
Agree		0%
Disagree		0%
Strongly Disagree		0%
2 The products in the kit were easy for students to use.		
Strongly Agree		0%
Agree		100%
Disagree		0%
Strongly Disagree		0%
3 I have a computer and access to the internet in my classroom.		
Yes		100%
No		0%
4 Students indicated that their parents supported the program.		
Yes		0%
No		100%
5 If you had the opportunity, would you conduct this program again?		
Yes		100%
No		0%
6 Would you recommend this program to other colleagues?		
Yes		100%
No		0%

Due to rounding of numbers, percentages may not add up to 100%



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Santa Maria WaterWise™ Program Summary Report 2018-2019

Made possible by:



Golden State
Water Company

A Subsidiary of American States Water Company

Submitted by:



A FRANKLIN ENERGY COMPANY

August 2019

*“I’ve done this program for 9 years!
Love it! It was well written and
engaging for the students.”*

Kim Carey, Teacher

Arellanes Elementary School

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*“My child became more conscious
about saving our water in
the environment.”*

Ana Hernandez, Parent

Arellanes Elementary School

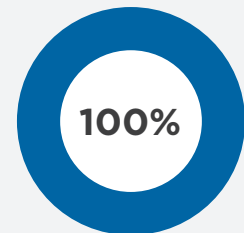
Executive Summary

Resource Action Programs® (RAP), a Franklin Energy Company, is pleased to present this Program Summary Report to Golden State Water, which summarizes the 2018-2019 Santa Maria WaterWise™ Program. The program was implemented in the Golden State Water service area in the state of California by 390 teachers, students, and their families.

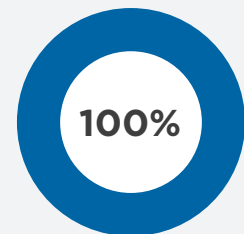
The following pages provide an overview of the program and materials, outline of program implementation, introduction to the program team, description of program enhancements, impact of the program, and summary of results from the home activities. In addition to this information, evaluations, letters, and comments are provided for a glimpse into actual participant feedback. Lastly, projected savings from the individual measures found within the WaterWise Kit are also included.

Participant Satisfaction

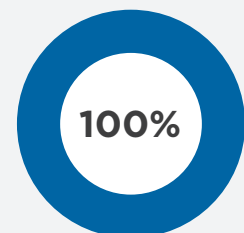
A successful program excites and engages participants. Students, parents, and teachers are asked to evaluate the program and provide personal comments. A sample of the feedback is given in the margin. >



***Teachers who indicated
parents supported
the program.***

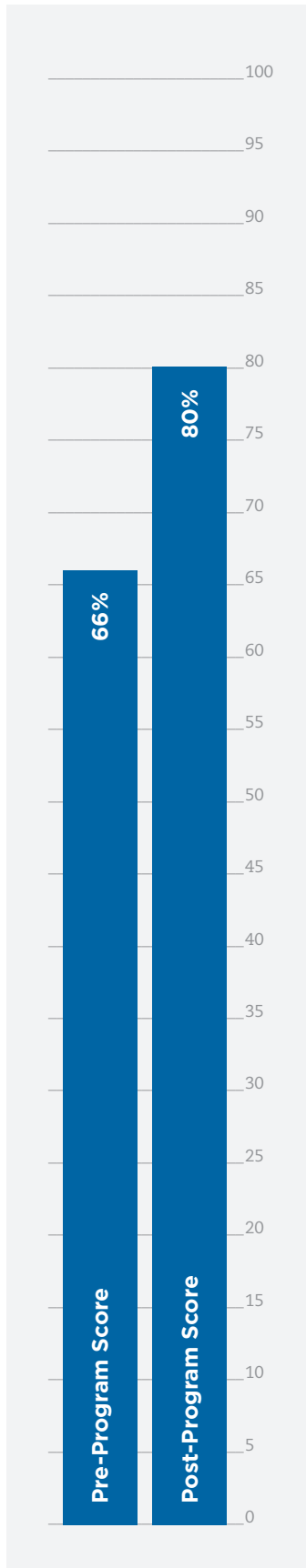


***Teachers who indicated
they would recommend
this program to
other colleagues.***



***Teachers who indicated
they would conduct this
program again.***

A summary of responses can be found
in Appendix D.



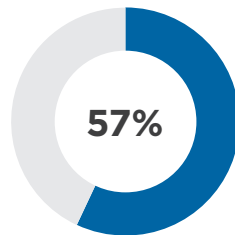
Knowledge Gained

Identical tests were taken by students prior to the program and again upon program completion to measure knowledge gained. Scores and subject knowledge improved from **66%** to **80%**.

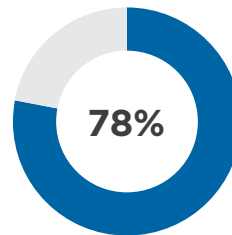
Data Obtained

Home surveys were performed by students and their families, collecting household demographic and consumption data along with program participation information.

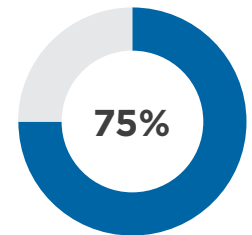
A summary of responses can be found in Appendix B.



Students who reported that their family homes were owned.



Students who reported that their water was heated by natural gas.

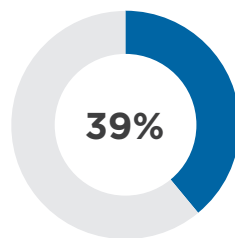


Students who reported that their home has a dishwasher.

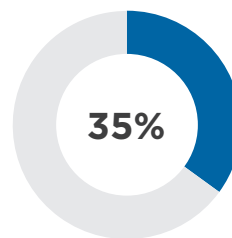
Measures Installed

Students completed retrofit activities as part of the program, and reported the measures they installed in their own homes.

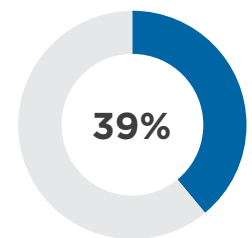
A summary of responses can be found in Appendix B.



Students who reported they installed the High-Efficiency Showerhead.



Students who reported they installed the Bathroom Faucet Aerator.



Students who reported they installed the Kitchen Faucet Aerator.

Water and Energy Savings Results


In addition to educating students and their parents, a primary program goal is to generate cost-effective water and energy savings. Student home surveys not only provided the data used in the savings projections, but also reinforced the learning benefits.

Projected Resource Savings

A list of assumptions and formulas used for these calculations can be found in Appendix A.

PROJECTED ANNUAL SAVINGS		PROJECTED LIFETIME SAVINGS	
1,971,301	gallons of water saved	13,016,425	gallons of water saved
7,590	therms of gas saved	54,143	therms of gas saved
42,242	kWh of electricity saved	302,555	kWh of electricity saved
1,971,301	gallons of wastewater saved	13,016,425	gallons of wastewater saved

PROJECTED ANNUAL SAVINGS PER HOME		PROJECTED LIFETIME SAVINGS PER HOME	
5,055	gallons of water saved	33,375	gallons of water saved
19	therms of gas saved	139	therms of gas saved
108	kWh of electricity saved	776	kWh of electricity saved
5,055	gallons of wastewater saved	33,375	gallons of wastewater saved



*“Participants and their
parents/guardians realize
actual water and energy
savings within their home,
benefitting two generations.”*

Program Overview


The Santa Maria WaterWise™ Program, a school-based water and energy efficiency education program, is designed to generate immediate and long-term resource savings by bringing interactive, real-world education home to students and their families. The 2018-2019 program was taught in 5th grade throughout the Golden State Water service area.

The Santa Maria WaterWise Program team identifies and enrolls students and teachers within the designated service area. The program physically begins with classroom discussions using a Student Guide that provides the foundations of using water and energy efficiently. It is followed by hands-on, creative, problem-solving activities led by the classroom teacher.

All program materials support state and national academic standards to allow the program to fit easily into a teacher's existing curriculum and requirements. The participating classroom teachers follow the Teacher Book and lesson plan. Information is given to guide lessons throughout the program in order to satisfy each student's individual needs, whether they are visual, auditory, or kinesthetic learners.

The WaterWise Kit and Student Workbook comprise the take-home portion of the program. Students receive a kit containing high-efficiency measures they use to install within their homes. With the help of their parents/guardians, students install the kit measures and complete a home survey. The act of installing and monitoring new water and energy efficiency devices in their homes allows students to put their learning into practice. Here, participants and their parents/guardians realize actual water and energy savings within their home, benefitting two generations.

A critical element of RAP program design is the use of new knowledge through reporting. At the end of the program, the Santa Maria Program team tabulates all participant responses—including home survey information, teacher responses, student letters, and parent feedback—and generates this Program Summary Report.



“For more than 26 years, Resource Action Programs (RAP) has designed and implemented Measure-Based Education® programs that inspire change in household energy and water use while delivering significant, measurable resource savings.”

Program Materials

Each participant in the Santa Maria WaterWise™ Program receives classroom materials and water and energy efficiency kits containing high-efficiency measures to perform the program's take-home activities. Program materials for students, parents/guardians, and teachers are outlined below.

Each Student & Teacher Receives

Student Guide

Student Workbook

Parent Letter/Pledge Form*

Student Survey Form

Certificate of Achievement

WaterWise Kit Containing:

- High-Efficiency Showerhead
- Kitchen Faucet Aerator
- Bathroom Faucet Aerator
- Mini Tape Measure
- Digital Thermometer
- Rain/Drip Gauge
- Flow Rate Test Bag
- Natural Resources Fact Chart
- Toilet Leak Detector Tablets
- Parent/Guardian Program Evaluation

"GetWise" Wristbands

Program Website Access at Getwise.org

Toll-Free HELP Line

Each Teacher/Classroom Receives

Teacher Book

Step-by-Step Program Checklist

Lesson Plans

Teacher Survey Form

California State and National Academic

Standards Chart

Pre/Post Test Answer Keys

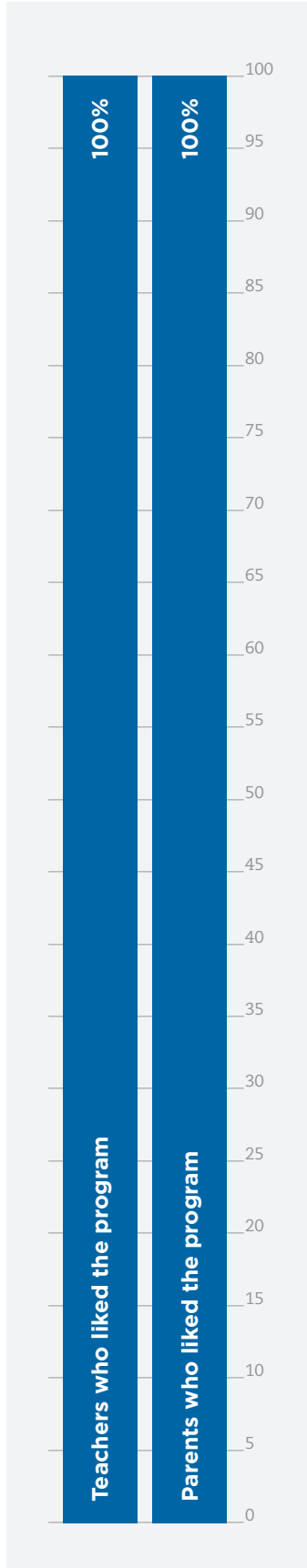
Water Poster

Self-Addressed Postage-Paid Envelope

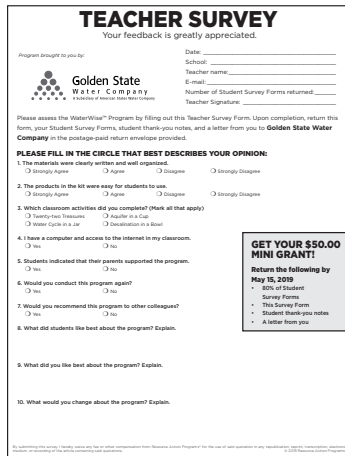
* Materials / Installation Instructions provided in English and Spanish

Custom Branding

In addition to increasing resource awareness and efficiency, the program has been designed to strengthen bonds between Golden State Water and the community. One of the steps taken to ensure the greatest possible exposure is to feature the Golden State Water logo throughout each WaterWise Kit. In addition to the kit, the Teacher Survey Form and Parent Letter/Pledge Form also feature Golden State Water branding.



Program Materials



TEACHER SURVEY
Your feedback is greatly appreciated.

Program brought to you by: **Golden State Water Company**
A subsidiary of American States Water Company

Date: _____
School: _____
Teacher name: _____
E-mail: _____
Number of Student Survey Forms returned: _____
Teacher Signature: _____

Please assess the WaterWise™ Program by filling out this Teacher Survey Form. Upon completion, return this form, your Student Survey Forms, student thank-you notes, and a letter from you to **Golden State Water Company** in the postage-paid return envelope provided.

PLEASE FILL IN THE CIRCLE THAT BEST DESCRIBES YOUR OPINION:

1. The materials were clearly written and well explained.
☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

2. The products in the kit were easy for students to use.
☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

3. Which classroom activities did you complete? (Mark all that apply)
☐ Family Fun Worksheet ☐ Aquatic in a Cup ☐ Water Cycle in a Jar
☐ Observation in a Bowl

4. I have a computer and access to the Internet in my classroom.
☐ yes ☐ no

5. Students indicated that their parents supported the program.
☐ yes ☐ no

6. Would you conduct this program again?
☐ yes ☐ no

7. Would you recommend this program to other colleagues?
☐ yes ☐ no

8. What did students like best about the program? Explain.

9. What did you like best about the program? Explain.

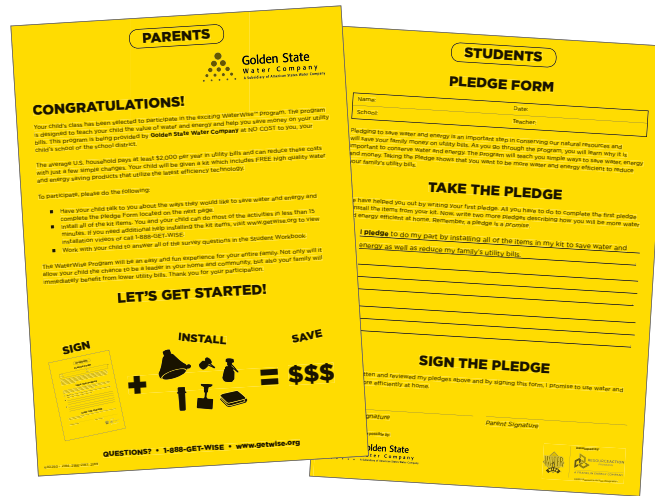
10. What would you change about the program? Explain.

GET YOUR \$50.00 MINI GRANT!

Return the following by **May 15, 2019**

- 80% of Student Survey Forms
- This Survey Form
- Student Thank-you notes
- A letter from you

Teacher Survey Form



PARENTS

Golden State Water Company
A subsidiary of American States Water Company

CONGRATULATIONS!

Your child's class has been selected to participate in the exciting WaterWise™ program! The program is designed to teach your child the value of water and energy and help you save money on your utility bills. This program is being provided by **Golden State Water Company** at NO COST to you. Your child's school or the school district.

The program is designed to help you save at least \$2,000 per year in utility bills and can reduce their water and energy costs by as much as 10%.

To participate, please do the following:

- Have your child ask you about the ways that water and energy are used in your home and school.
- Complete the Pledge Form located in the kit.
- Return all of the kit items. You will also need to fill out the survey in the kit.
- Complete the Family Fun Worksheet located in the kit.
- Work with your child to answer all of the survey questions in the Student Workbook.

The WaterWise™ Program will be an easy and fun experience for your entire family. Now only with it, you can also help the country to be a leader in water conservation, and your family will immediately benefit from lower utility bills. Thank you for your participation.

LET'S GET STARTED!

SIGN + INSTALL = SAVE \$\$\$

QUESTIONS? • 1-888-GET-WISE • www.getwise.org

STUDENTS

PLEDGE FORM

Name: _____
 School: _____
 Teacher: _____

I pledge to save water and energy in my home and school by following the rules in the kit and to help my family and school save money on utility bills. As you go through the program, you will learn why it is important to conserve water and energy. This program will teach you how to save water and energy in your home and school.

TAKE THE PLEDGE

I have learned the kit by reading the kit. All you have to do to complete the first pledge. Please fill out the kit and work with your child to complete the first pledge. Please fill out the kit and work with your child to complete the first pledge. Please fill out the kit and work with your child to complete the first pledge.

SIGN THE PLEDGE

Parent Signature: _____
 Student Signature: _____

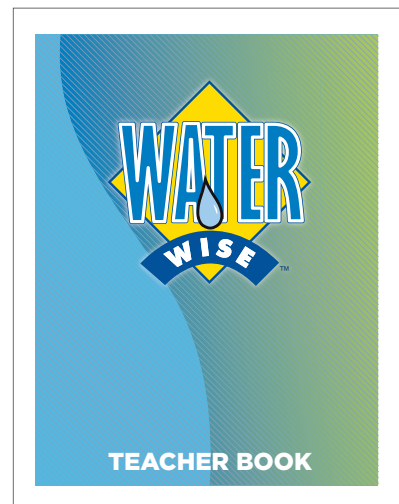
Parent Letter/Pledge Form



Student Guide



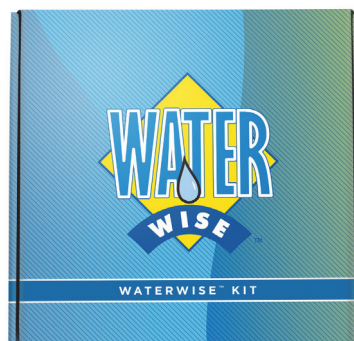
Student Workbook



Teacher Book



Certificate of Achievement



Kit Box



Kit Label

“The students really enjoyed the activities — water cycle in a jar & aquifier in a cup were the two favorites.”

Kim Carey, Teacher

Arellanes Elementary School

Program Implementation

The 2018-2019 Santa Maria WaterWise™ Program followed this comprehensive implementation schedule:

1. Identification of California state and national academic standards & benchmarks
2. Curriculum development and refinement (completed annually)
3. Curriculum correlation to California state and national academic standards & benchmarks
4. Materials modification to incorporate Golden State Water branding
5. Incentive program development
6. Teacher/school identification - with Golden State Water approval
7. Teacher outreach and program introduction
8. Teachers enrolled in the program individually
9. Implementation dates scheduled with teachers
10. Program material delivered to coincide with desired implementation date
11. Delivery confirmation
12. Periodic contact to ensure implementation and teacher satisfaction
13. Program completion incentive offered
14. Results collection
15. Program completion incentive delivered to qualifying teachers
16. Thank you cards sent to participating teachers
17. Data analysis
18. Program Summary Report generated and distributed

Participating teachers are free to implement the program to coincide with their lesson plans and class schedules. Appendix C provides a comprehensive list of classrooms in grade 5 that participated during the 2018-2019 school year.

Resource Action Programs (RAP) has been in the business of designing and implementing energy and water efficiency programs for nearly three decades. Throughout this time we've built an expert team of industry professionals that deliver a seamless program to achieve your goals.

We designed the Santa Maria WaterWise™ Program in our program center from the ground up. Working in conjunction with Golden State Water, we identified goals, desired outcomes of the program, and specific materials' customization. The result is a stimulating program that delivers significant and measurable resource savings. The Santa Maria WaterWise Program features a proven blend of innovative education, comprehensive implementation services, and hands-on activities to put efficiency knowledge to work in homes throughout the Santa Maria service territory.

The Santa Maria WaterWise Program is a reflection of true teamwork. On behalf of the entire implementation team at Resource Action Programs, I would like to thank you for the opportunity to design and implement the Santa Maria WaterWise Program. It has been a pleasure working with you. I look forward to many more years of program success.

Sincerely,



Kevin Flom
Program Consultant



Chase Griswold
Program Manager

Program Team

Program Team

The success of the Santa Maria WaterWise™ Program is owed to a cross-functional implementation team chosen specifically to meet the goals of the program. We incorporated both a PMP® certified Program Manager and a CEM® designated energy analyst to ensure the program hits key milestones and delivers results. These thought leaders are supported by an integral mix of specialists working in unity to accomplish your program objectives. The Santa Maria WaterWise Program implementation team consisted of the following:

Outreach

Our outreach team is the face of the Santa Maria WaterWise Program, introducing teachers to the program, and providing support throughout implementation to guarantee the program's success in the classroom. This group builds relationships and keeps teachers engaged in program execution year after year.

Graphic Design and Marketing

Expertly-designed kits and program materials are a result of our Graphic Design and Marketing teams. This group provides brand alignment and marketing strategies to ensure program branding is within guidelines. Additionally, this team facilitates copy and art direction and works with education to develop end-user activities.

Education

Led by a Ph.D. educator having both classroom and administration leadership experience, this team is responsible for the development of educational content as well as classroom energy literacy and engagement. The group also ensures the program's content is aligned with California state expectations in science, math, and language as well as the rigorous expectations of STEM (Science, Technology, Engineering, and Math).

Information Technology

We leave IT strategy and cyber security in the hands of our experts. This team built and manages the integrated systems responsible for seamlessly blending operations, driving automation, and maximizing participation in the Santa Maria WaterWise Program. This group provides the managed data services and software in support of outreach, enrollment, order processing, fulfillment, data collection and reporting.

Warehouse and Logistics

Last but not least, our warehouse and logistics teams guarantee Santa Maria WaterWise program materials reach the classroom on-time and without errors. This group provides printing, purchasing, production, quality assurance & control, warehousing and shipping for all program materials. Additionally, this team ensures that all materials are consistent with orders and confirms delivery.

“Upon completion of the program, participating families are asked to complete a home survey to assess their resource use, verify product installation, provide demographic information, and measure participation rates.”

Program Impact

The Santa Maria WaterWise™ Program has had a significant impact within the community. As illustrated below, the program successfully educated participants about water and energy efficiency while generating resource savings through the installation of efficiency measures in homes. Home survey information was collected to track projected savings and provide household consumption and demographic data. Program evaluations and comments were collected from teachers, students, and parents.

A. Home Survey

Upon completion of the program, participating families are asked to complete a home survey to assess their resource use, verify product installation, provide demographic information, and measure participation rates. A few samples of questions asked are below while a complete summary of all responses is included in the appendices.

Did you work with your family on this program?

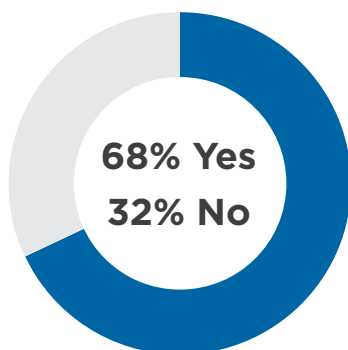
Yes - 68%

Did your family change the way they use water?

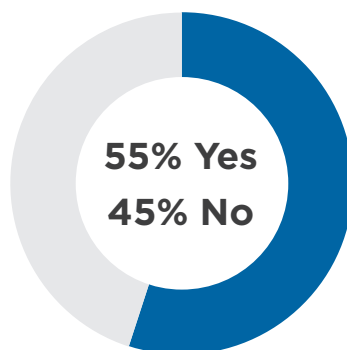
Yes - 55%

Did your family change the way they use water outdoors?

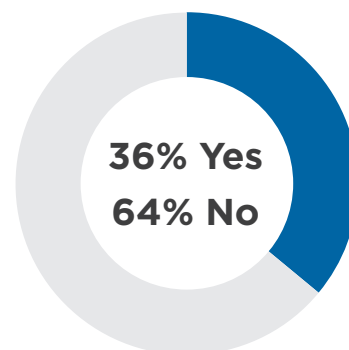
Yes - 36%



Students who indicated they worked with their family on this program.



Students who indicated their family changed the way they use water.

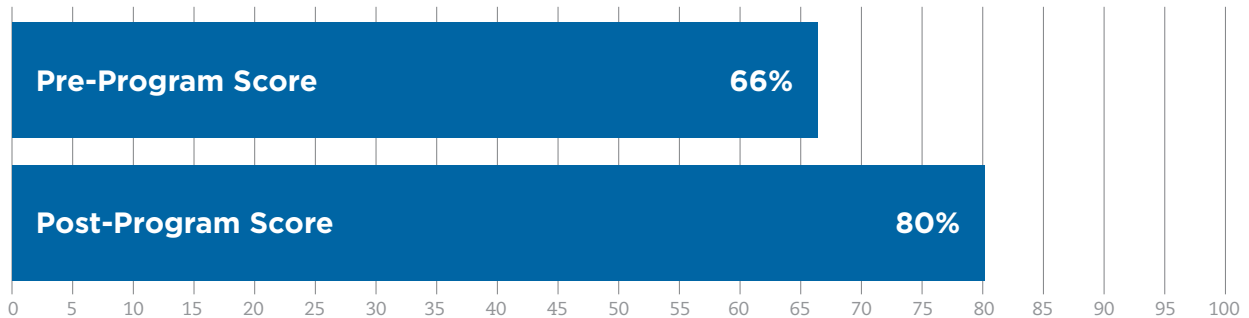


Students who indicated their family changed the way they use water outdoors.

B. Pre-Program and Post-Program Tests

Students were asked to complete a 10-question test before the program was introduced and then again after it was completed to determine the knowledge gained through the program. The average student answered **6.6** questions correctly prior to being involved in the program and then improved to answer **8.0** questions correctly following participation.

Scores improved from 66% to 80%.



C. Home Activities

As part of the program, parents and students installed resource efficiency measures in their homes. They also measured the pre-existing devices to calculate savings that they generated. Using the family habits collected from the home survey as the basis for this calculation, 390 households are expected to save the following resource totals. Savings from these actions and new behaviors will continue for many years to come.

Projected Resource Savings

A list of assumptions and formulas used for these calculations can be found in Appendix A.

Number of Participants:	390	
	Annual	Lifetime
Projected reduction from Showerhead retrofit:	631,984	6,319,837 gallons
Product Life: 10 years	3,239	32,387 therms
	18,269	182,694 kWh
Projected reduction from Kitchen Faucet Aerator retrofit:	524,058	2,620,289 gallons
Product Life: 5 years	1,986	9,931 therms
	10,943	54,715 kWh
Projected reduction from Bathroom Faucet Aerator retrofit:	623,966	3,119,829 gallons
Product Life: 5 years	2,365	11,825 therms
	13,029	65,146 kWh
Projected reduction from the Toilet Leak repair:	144,619	723,095 gallons
Estimated Useful Life (EUL): 5 years		
Projected reduction from the Faucet Leak repair:	46,675	233,376 gallons
Estimated Useful Life (EUL): 5 years		
TOTAL PROJECTED PROGRAM SAVINGS:	1,971,301	13,016,425 gallons
	7,590	54,143 therms
	42,242	302,555 kWh
TOTAL PROJECTED PROGRAM SAVINGS PER HOUSEHOLD:	5,055	33,375 gallons
	19	139 therms
	108	776 kWh

D. Teacher Program Evaluation

Program improvements are based on participant feedback received. One of the types of feedback obtained is from participating teachers via a Teacher Program Evaluation Form. They are asked to evaluate relevant aspects of the program and each response is reviewed for pertinent information. The following is feedback from the Teacher Program Evaluation for the Santa Maria WaterWise Program.

Teacher Response

(A summary of responses can be found in Appendix D)

100% of participating teachers indicated they would conduct the program again given the opportunity.

100% of participating teachers indicated they would recommend the program to their colleagues.

What did students like best about the program? Explain.

“The students really enjoyed the activities — water cycle in a jar & aquifer in a cup were the two favorites.”

Kim Carey, Arellanes Elementary School

What did you like best about the program? Explain.

“I’ve done this program for 9 years! Love it! It was well written and engaging for the students.”

Kim Carey, Arellanes Elementary School

What would you change about the program? Explain.

“Not a thing! Thanks for all the support & free items you provided in the kit. The students are now aware and are now very conscious about saving H₂O.”

Kim Carey, Arellanes Elementary School

E. Parent/Guardian Program Evaluation

Parent involvement with program activities and their children is of paramount interest to both utilities and teachers in the program. When parents take an active role in their child's education it helps the schools and strengthens the educational process considerably. When students successfully engage their families in retrofit, installation, and home energy efficiency projects, efficiency messages are powerfully delivered to two generations in the same household. The program is a catalyst for this family interaction, which is demonstrated by feedback from Parent/Guardian Program Evaluations in each program. The following is feedback from the Parent/Guardian Program Evaluations for the Santa Maria WaterWise Program.

Parent Response

(A summary of responses can be found in Appendix E)

100% of participating parents indicated that the program was easy to use.

100% of participating parents indicated they would continue to use the kit items after the completion of the program.

100% of participating parents indicated they would like to see this program continued in local schools.

As a parent, which aspect of the program did you like best?

"I liked the water saving materials for the home."

Ana Hernandez, Arellanes Elementary School

Are there any comments you would like to express to your child's program sponsor?

"My child became more conscious about saving our water in the environment."

Ana Hernandez, Arellanes Elementary School

“As a parent, I liked the water saving materials for the home.”

Ana Hernandez, Parent

Arellanes Elementary School

Appendices

Appendix A

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Projected Savings from Showerhead Retrofit

Showerhead retrofit inputs and assumptions:

Average household size:	5.62	people ¹
Average number of full bathrooms per home:	1.92	full bathrooms per home ¹
% of water heated by gas:	78.00%	¹
% of water heated by electricity:	22.00%	¹
Installation / participation rate of:	39.18%	¹
Average showerhead has a flow rate of:	1.94	gallons per minute ¹
Retrofit showerhead has flow rate of:	1.24	gallons per minute ¹
Number of participants:	390	¹
Shower duration:	8.20	minutes per day ²
Showers per day per person:	0.67	showers per day ²
Product life:	10.00	years ³

Projected Water Savings:

Showerhead retrofit projects an annual reduction of:	631,984	gallons ⁴
Showerhead retrofit projects a lifetime reduction of:	6,319,837	gallons ⁵

Projected Electricity Savings:

Showerhead retrofit projects an annual reduction of:	18,269	kWh ^{2,6}
Showerhead retrofit projects a lifetime reduction of:	182,694	kWh ^{2,7}

Projected Natural Gas Savings:

Showerhead retrofit projects an annual reduction of:	3,239	therms ^{2,8}
Showerhead retrofit projects a lifetime reduction of:	32,387	therms ^{2,9}

¹ Data reported by program participants.

² (March 4, 2010). EPA WaterSense® Specification for Showerheads Supporting Statement. Retrieved from http://www.epa.gov/WaterSense/docs/showerheads_finalsupstat508.pdf

³ Provided by manufacturer.

⁴ $[(\text{Average Household Size} \times \text{Shower Duration} \times \text{Showers per Day per Person}) \div \text{Average Number of Full Bathrooms per Home}] \times (\text{Average Showerhead Flow Rate} - \text{Retrofit Showerhead Flow Rate}) \times \text{Number of Participants} \times \text{Installation Rate} \times 365 \text{ days}$

⁵ $[(\text{Average Household Size} \times \text{Shower Duration} \times \text{Showers per Day per Person}) \div \text{Average Number of Full Bathrooms per Home}] \times (\text{Average Showerhead Flow Rate} - \text{Retrofit Showerhead Flow Rate}) \times \text{Number of Participants} \times \text{Installation Rate} \times 365 \text{ days} \times \text{Product Life}$

⁶ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.18 kWh/gal x % of Water Heated by Electricity

⁷ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.18 kWh/gal x % of Water Heated by Electricity x Product Life

⁸ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.009 Therms/gal x % of Water Heated by Natural Gas

⁹ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.009 Therms/gal x % of Water Heated by Natural Gas x Product Life

Projected Savings from Kitchen Faucet Aerator Retrofit

Kitchen Faucet Aerator retrofit inputs and assumptions:

Average household size:	5.62	people ¹
% of homes with a dishwasher:	75.47%	¹
% of homes without a dishwasher:	24.53%	¹
% of water heated by gas:	78.00%	¹
% of water heated by electricity:	22.00%	¹
Installation / participation rate of:	39.00%	¹
Number of participants:	390	¹
Average kitchen faucet aerator has a flow rate of:	2.50	gallons per minute ²
Retrofit kitchen faucet aerator has flow rate of:	1.50	gallons per minute ³
Product life:	5.00	years ³
Length of use without dishwasher:	15.00	minutes per day ⁴
Length of use without dishwasher (each family member):	1.00	minute per day ⁴
Length of use with dishwasher:	3.00	minutes per day ⁴
Length of use with dishwasher (each family member):	0.50	minutes per day ⁴

Projected Water Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	524,058	gallons ⁵
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	2,620,289	gallons ⁶

Projected Electricity Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	10,943	kWh ^{4,7}
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	54,715	kWh ^{4,8}

Projected Natural Gas Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	1,986	therms ^{4,9}
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	9,931	therms ^{4,10}

¹ Data reported by program participants.

² Vickers, Amy (2002). *Water Use and Conservation*. Amherst, MA: WaterFlow Press.

³ Provided by manufacturer.

⁴ Quantec, LLC. (2008). *Impact of Flipping the Switch: Evaluating the Effectiveness of Low Income Residential Energy Education Programs*. Portland: Drakos, Jamie et al.

⁵ $[\text{Length of use without dishwasher} + [\text{Average household size} \times \text{Length of use without dishwasher (each family member)}]] \times \% \text{ of homes without dishwasher} + [\text{Length of use with dishwasher} + [\text{Average household size} \times \text{Length of use with dishwasher (each family member)}]] \times \% \text{ of homes with dishwasher} \times [\text{Average Kitchen Aerator flow rate} - \text{Retrofit Kitchen Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days}$

⁶ $[\text{Length of use without dishwasher} + [\text{Average household size} \times \text{Length of use without dishwasher (each family member)}]] \times \% \text{ of homes without dishwasher} + [\text{Length of use with dishwasher} + [\text{Average household size} \times \text{Length of use with dishwasher (each family member)}]] \times \% \text{ of homes with dishwasher} \times [\text{Average Kitchen Aerator flow rate} - \text{Retrofit Kitchen Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days} \times \text{Product Life}$

⁷ $\text{Projected Annual Water Savings} \times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁸ $\text{Projected Lifetime Water Savings} \times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁹ $\text{Projected Annual Water Savings} \times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

¹⁰ $\text{Projected Lifetime Water Savings} \times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

Projected Savings from Bathroom Faucet Aerator Retrofit

Bathroom Faucet Aerator retrofit inputs and assumptions:

Average household size:	5.62	people ¹
% of water heated by gas:	78.00%	¹
% of water heated by electricity:	22.00%	¹
Installation / participation rate of:	34.69%	¹
Number of participants:	390	¹
Average bathroom faucet aerator has a flow rate of:	2.50	gallons per minute ²
Retrofit bathroom faucet aerator has flow rate of:	1.00	gallons per minute ³
Product life:	5.00	years ³
Length of use (per family member):	1.50	minutes per day ⁴

Projected Water Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	623,966	gallons ⁵
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	3,119,829	gallons ⁶

Projected Electricity Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	13,029	kWh ^{4,7}
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	65,146	kWh ^{4,8}

Projected Natural Gas Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	2,365	therms ^{4,9}
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	11,825	therms ^{4,10}

¹ Data reported by program participants.

² Vickers, Amy (2002). *Water Use and Conservation*. Amherst, MA: WaterPlow Press.

³ Provided by manufacturer.

⁴ Quantec, LLC. (2008). *Impact of Flipping the Switch: Evaluating the Effectiveness of Low Income Residential Energy Education Programs*. Portland: Drakos, Jamie et al.

⁵ $[\text{Length of use (each family member)} \times \text{Average household size}] \times [\text{Average Bathroom Aerator flow rate} - \text{Retrofit Bathroom Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days}$

⁶ $[\text{Length of use (each family member)} \times \text{Average household size}] \times [\text{Average Bathroom Aerator flow rate} - \text{Retrofit Bathroom Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days} \times \text{Product Life}$

⁷ $\text{Projected Annual Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁸ $\text{Projected Lifetime Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁹ $\text{Projected Annual Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

¹⁰ $\text{Projected Lifetime Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

Projected Savings from Toilet Leak Repair

Toilet Leak repair inputs and assumptions:

Number of participants:	390	¹
% of toilets leaking:	10.42%	¹
% of toilets where the leak was repaired:	28.21%	¹
Number of homes with fixed toilet leaks:	11.46	¹
USGS gallons lost per year per leak:	12,621.29	GPY per leak ²
EUL:	5.00	years ³

Projected Water Savings:

Toilet Leak repair projects an annual reduction of:	144,619	gallons/year ⁴
Toilet Leak repair projects a lifetime reduction of:	723,095	gallons ⁵

¹ Data reported by program participants.

² <http://www.epa.gov/WaterSense/pubs/fixleak.html>

³ Estimation of years before toilet begins leaking again. Frontier and Associates

⁴ USGS gallons lost per year per leak x 1 leak per home x Number of homes with fixed toilet leaks

⁵ USGS gallons lost per year per leak x 1 leak per home x Number of homes with fixed toilet leaks x Product Life

Projected Savings from Faucet Leak Repair

Faucet Leak repair inputs and assumptions:

Number of participants:	390	¹
Number of faucets leaking:	16	¹
% of all faucets where the leak was repaired:	22.00%	¹
Number of drips per minute:	1.00	²
Number of drips per day:	1,440	²
Number of drips per gallon:	15,140	²
Number of gallons per year:	34.00	GPY per leak ²
EUL:	5.00	years ³

Projected Water Savings:

Faucet Leak repair projects an annual reduction of:	46,675	gallons/year ⁴
Faucet Leak repair projects a lifetime reduction of:	233,376	gallons ⁵

¹ Data reported by program participants.

² <http://water.usgs.gov/edu/activity-drip.html>

³ Estimation of years before faucet begins leaking again. Frontier and Associates

⁴ USGS gallons lost per year per leak x 1 leak per home x Number of homes with fixed faucet leaks

⁵ USGS gallons lost per year per leak x 1 leak per home x Number of homes with fixed faucet leaks x Product Life

Home Check-Up

1 What type of home do you live in?	
Single family home (mobile)	6%
Single family home (manufactured)	16%
Single family home (built)	60%
Multi-family Home (2-4 units)	16%
Multi-family home (5-20 units)	2%
Multi-family home (21+ units)	0%
2 Was your home built before 1992?	
Yes	68%
No	32%
3 Is your home owned or rented?	
Owned	57%
Rented	43%
4 How many kids live in your home (age 0-17)?	
1	20%
2	25%
3	25%
4	10%
5+	19%
5 How many adults live in your home (age 18+)?	
1	5%
2	49%
3	22%
4	12%
5+	12%
6 Does your home have programmable outdoor sprinkler system?	
Yes	51%
No	49%
7 Does your home have a dishwasher?	
Yes	75%
No	25%
8 How many half-bathrooms are in your home?	
0	70%
1	21%
2	7%
3	1%
4+	1%

Due to rounding of numbers, percentages may not add up to 100%

Home Check-Up

(continued)

9 How many full bathrooms are in your home?

1	23%
2	64%
3	10%
4	1%
5+	1%

10 How many toilets are in your home?

1	9%
2	68%
3	20%
4	2%
5+	1%

11 How is your water heated?

Natural Gas	78%
Electricity	22%

Due to rounding of numbers, percentages may not add up to 100%

Home Activities

1 What is the flow rate of your old showerhead?	
0 - 1.0 gpm	12%
1.1 - 1.5 gpm	26%
1.6 - 2.0 gpm	18%
2.1 - 2.5 gpm	18%
2.6 - 3.0 gpm	17%
3.1+ gpm	10%
2 Did your family install the new High-Efficiency Showerhead?	
Yes	39%
No	61%
3 If you answered "yes" to question 2, what is the flow rate of your new showerhead?	
0 - 1.0 gpm	25%
1.1 - 1.5 gpm	40%
1.6 - 1.75 gpm	35%
4 Did your family install the new Kitchen Faucet Aerator?	
Yes	39%
No	61%
5 Did your family install the new Bathroom Faucet Aerator?	
Yes	35%
No	65%
6 Did your family lower your water heater settings?	
Yes	36%
No	64%
7 Was your toilet leaking?	
Yes	10%
No	90%
8 If you answered "yes" to question 7, were the leaks repaired?	
Yes	28%
No	72%
9 How many faucets were leaking?	
0	89%
1	6%
2	3%
3	0%
4	1%
5	0%

Due to rounding of numbers, percentages may not add up to 100%

Home Activities

(continued)

10 If you answered that there were faucets leaking in question 9, were the leaks repaired?	
Yes, all of them	22%
Yes, some of them	8%
None	70%
11 Did your family adjust the outdoor watering schedule?	
Yes	26%
No	74%
12 Did your family change the way they water outdoors?	
Yes	36%
No	64%
13 Did you work with your family on this Program?	
Yes	68%
No	32%
14 Did your family change the way they use water?	
Yes	55%
No	45%
15 How would you rate the WaterWise™ Program?	
Great	34%
Pretty good	32%
Okay	31%
Not so good	2%

Due to rounding of numbers, percentages may not add up to 100%

Participant List

SCHOOL	TEACHER	T	S
Alice Shaw Elementary School	Valerie Trenev	1	15
Alice Shaw Elementary School	Troy Horton	1	30
Alice Shaw Elementary School	Amy Ruth	1	31
Arellanes Elementary School	Kim Carey	1	33
Benjamin Foxen Elementary School	William Wells	1	30
Dorothea Lange Elementary School	Kathryn McDonald	1	31
Joe Nightingale Elementary School	Julie Grennan	1	32
Joe Nightingale Elementary School	Lisa Savaso	1	28
Patterson Road Elementary School	Kelsey Cave	1	16
Pine Grove Elementary School	Rebecca Belanger	1	62
Pine Grove Elementary School	Allie Doerksen	1	31
Ralph Dunlap Elementary School	Miles Greenup	1	34
Ralph Dunlap Elementary School	Gabriel Espinoza	1	4
TOTALS		13	377
TOTAL PARTICIPANTS		390	

Note: "T" represents number of teachers and "S" represents number of students

Teacher Program Evaluation Data

1 The materials were clearly written and well organized.		
Strongly Agree		100%
Agree		0%
Disagree		0%
Strongly Disagree		0%
2 The products in the kit were easy for students to use.		
Strongly Agree		100%
Agree		0%
Disagree		0%
Strongly Disagree		0%
3 I have a computer and access to the internet in my classroom.		
Yes		100%
No		0%
4 Students indicated that their parents supported the program.		
Yes		100%
No		0%
5 If you had the opportunity, would you conduct this program again?		
Yes		100%
No		0%
6 Would you recommend this program to other colleagues?		
Yes		100%
No		0%

Due to rounding of numbers, percentages may not add up to 100%

Parent/Guardian Program Evaluation Data

1 Was the program easy for you and your child to use?

Yes	100%
No	0%

2 Will you continue to use the kit items after the completion of the program?

Yes	100%
No	0%

3 Would you like to see this program continued in local schools?

Yes	100%
No	0%

Due to rounding of numbers, percentages may not add up to 100%

SIMI VALLEY LIVINGWISE® **PROGRAM SUMMARY REPORT**

2018-2019

SUBMITTED BY:



RESOURCEACTION
PROGRAMS

A FRANKLIN ENERGY COMPANY

Simi Valley LivingWise® Program Summary Report 2018-2019

Made possible by:



Golden State
Water Company

A Subsidiary of American States Water Company



A  **Sempra Energy** utility®

Submitted by:



A FRANKLIN ENERGY COMPANY

August 2019

“The act of installing and monitoring new energy efficiency devices in their homes allows students to put their learning into practice.”

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“Students enjoyed learning about conservation and receiving the box of tools.”

Madeline Wagner, Teacher

Park View Elementary School

Executive Summary

Resource Action Programs® (RAP), a Franklin Energy Company, is pleased to present this Program Summary Report to Golden State Water, which summarizes the 2018-2019 Simi Valley LivingWise® Program. The program was implemented in the Golden State Water service area in the state of California by 138 teachers, students, and their families. Funding was provided by Golden State Water and Southern California Gas (SoCalGas).

The following pages provide an overview of the program and materials, outline of program implementation, introduction to the program team, description of program enhancements, impact of the program, and summary of results from the home activities. In addition to this information, evaluations, letters, and comments are provided for a glimpse into actual participant feedback. Lastly, projected savings from the individual measures found within the LivingWise Kit are also included.

Participant Satisfaction

A successful program excites and engages participants. Students, parents, and teachers are asked to evaluate the program and provide personal comments. A sample of the feedback is given in the margin. >

100%

Teachers who indicated the materials were attractive and easy to use.

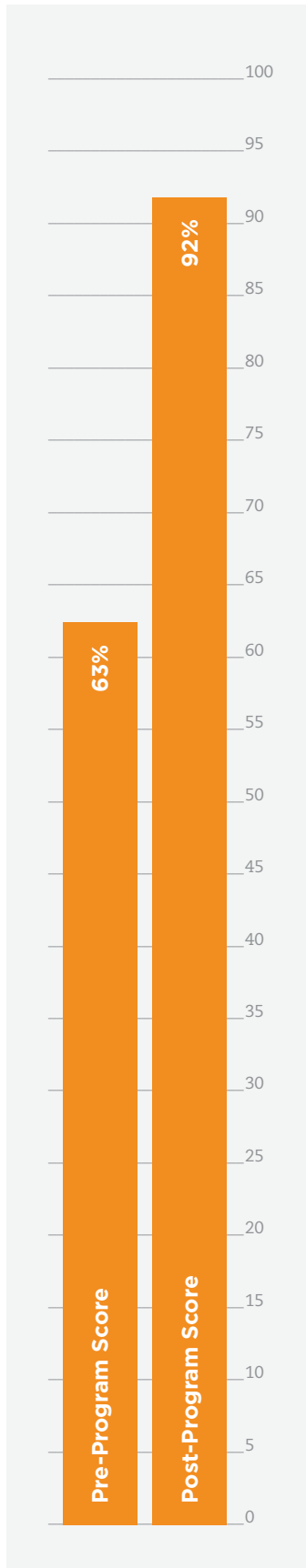
100%

Teachers who indicated they would recommend this program to other colleagues.

100%

Teachers who indicated the materials and activities were well received by students.

A summary of responses can be found in Appendix D.



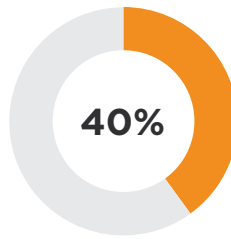
Knowledge Gained

Identical tests were administered to the students prior to the program and again upon program completion to measure knowledge gained. Scores and subject knowledge improved from **63%** to **92%**.

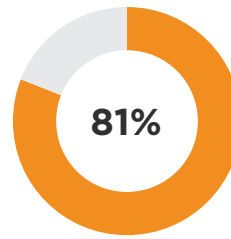
Data Obtained

Home surveys were taken by students and their families, which collected household demographic and consumption data along with program participation information.

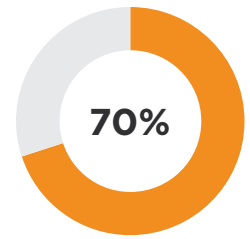
A summary of responses can be found in Appendix B.



Students who reported that their family home is owned.



Students who reported that their water is heated by natural gas.

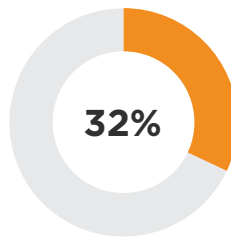


Students who reported that their home has a dishwasher.

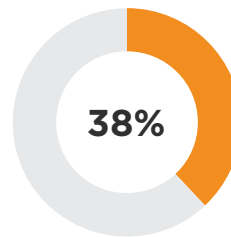
Measures Installed

Students completed take-home activities as part of the program and reported on the kit measures they installed in their homes.

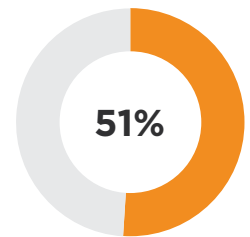
A summary of responses can be found in Appendix B.



Students who reported they installed the High-Efficiency Showerhead.



Students who reported they installed the Bathroom Faucet Aerator.



Students who reported they lowered their water heater settings.

Energy and Water Savings Results

In addition to educating students and their parents, a primary program goal is to generate cost-effective energy and water savings. Student home surveys not only provided the data used in the savings projections, but also reinforced the learning benefits.

Projected Resource Savings

A list of assumptions and formulas used for these calculations can be found in Appendix A.

PROJECTED ANNUAL SAVINGS		PROJECTED LIFETIME SAVINGS	
1,472,472	gallons of water saved	11,716,647	gallons of water saved
32,946	kWh of electricity saved	276,401	kWh of electricity saved
7,052	therms of gas saved	58,746	therms of gas saved
1,472,472	gallons of wastewater saved	11,716,647	gallons of wastewater saved

PROJECTED ANNUAL SAVINGS PER HOME		PROJECTED LIFETIME SAVINGS PER HOME	
10,670	gallons of water saved	84,903	gallons of water saved
239	kWh of electricity saved	2,003	kWh of electricity saved
51	therms of gas saved	426	therms of gas saved
10,670	gallons of wastewater saved	84,903	gallons of wastewater saved

*“Participants and their parents/
guardians realize actual water and
energy savings within their home,
benefitting two generations.”*

Program Overview

The Simi Valley LivingWise® Program, a school-based energy efficiency education program, is designed to generate immediate and long-term resource savings by bringing interactive, real-world education home to students and their families. The 2018-2019 program was taught in 6th grade throughout the Golden State Water service area.

The Simi Valley LivingWise Program team identifies and enrolls students and teachers within the designated service area. The program physically begins with classroom discussions using a Student Guide that provides the foundations of using energy and water efficiently. It is followed by hands-on, creative, problem-solving activities led by the classroom teacher.

All program materials support state and national academic standards to allow the program to fit easily into a teacher's existing curriculum and requirements. The participating classroom teachers follow the Teacher Book and lesson plan. Information is given to guide lessons throughout the program in order to satisfy each student's individual needs, whether they are visual, auditory, or kinesthetic learners.

The LivingWise Kit and Student Workbook comprise the take-home portion of the program. Students receive a kit containing high-efficiency measures they use to install within their homes. With the help of their parents/guardians, students install the kit measures and complete a home survey. The act of installing and monitoring new energy efficiency devices in their homes allows students to put their learning into practice. Here, participants and their parents/guardians realize actual water and energy savings within their home, benefitting two generations.

A critical element of RAP program design is the use of new knowledge through reporting. At the end of the program, the Simi Valley program team tabulates all participant responses—including home survey information, teacher responses, student letters, and parent feedback—and generates this Program Summary Report.

“For more than 26 years, Resource Action Programs (RAP) has designed and implemented Measure-Based Education® programs that inspire change in household energy and water use while delivering significant, measurable resource savings.”

Program Materials

Each participant in the Simi Valley LivingWise® Program receives classroom materials and energy efficiency kits containing high-efficiency measures to perform the program's take-home activities. Program materials for students, parents/guardians, and teachers are outlined below.

Each Student & Teacher Receives

Student Guide

Student Workbook

Parent Letter/Pledge Form*

Student Survey Form

Certificate of Achievement

LivingWise Kit Containing:

- (2) High-Efficiency Showerheads
- Kitchen Faucet Aerator
- (2) Bathroom Faucet Aerators
- Rain/Drip Gauge
- FilterTone® Alarm
- Digital Thermometer
- Toilet Leak Detector Tablets
- Flow Rate Test Bag
- Natural Resource Fact Chart
- Mini Tape Measure
- Parent/Guardian Program Evaluation
- Illustrated Installation Guide

"GetWise" Wristband

Program Website Access at Getwise.org

Toll-Free HELP Line

Each Teacher/Classroom Receives

Teacher Book

Step-by-Step Program Checklist

Lesson Plans

California State and National Academic

Standards Chart

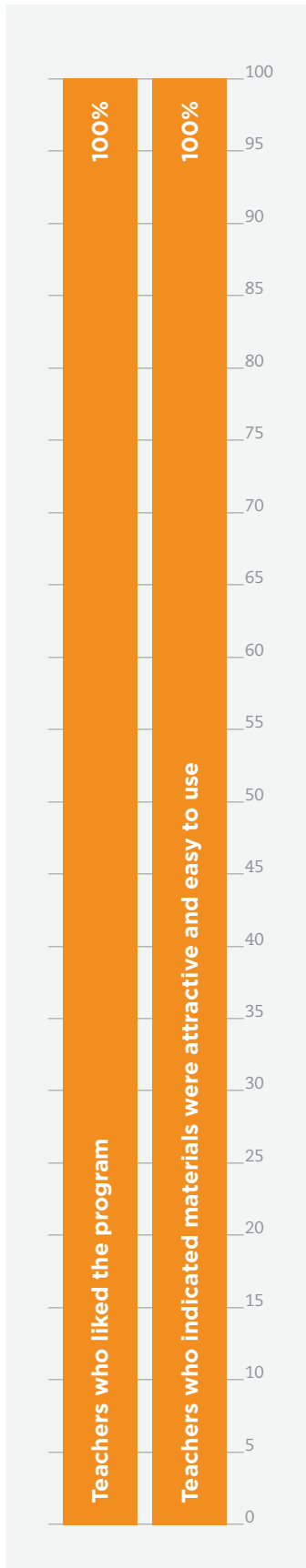
Teacher Survey Form

Pre/Post Student Survey Answer Keys

Electricity, Water, and Natural Gas Posters

Self-Addressed Postage-Paid Envelope

* Materials / provided in English and Spanish



Custom Branding

In addition to increasing resource awareness and efficiency, the program has been designed to strengthen bonds between Golden State Water and the community. One of the steps taken to ensure the greatest possible exposure is to feature the Golden State Water branding with SoCalGas Company's custom design and color scheme throughout each LivingWise Kit. In addition to the kit, the Teacher Survey Form and Parent Letter/Pledge Form also feature Golden State Water branding.



“RAP utilizes an extensive network of educators for program feedback. This feedback ensures that educational components meet the changing needs of educators, keep information relevant to students, and, in turn, provide increased energy literacy amongst program participants.”

Program Implementation

The 2018-2019 Simi Valley LivingWise® Program followed this comprehensive implementation schedule:

1. Identification of California state and national academic standards & benchmarks
2. Curriculum development and refinement (completed annually)
3. Curriculum correlation to California state and national academic standards & benchmarks
4. Materials modification to incorporate Golden State Water and SoCalGas and branding
5. Incentive program development
6. Teacher/school identification—with Golden State Water and SoCalGas and approval
7. Teacher outreach and program introduction
8. Teachers enrolled in the program individually
9. Implementation dates scheduled with teachers
10. Program material delivered to coincide with desired implementation date
11. Delivery confirmation
12. Periodic contact to ensure implementation and teacher satisfaction
13. Program completion incentive offered
14. Results collection
15. Program completion incentive delivered to qualifying teachers
16. Thank you cards sent to participating teachers
17. Data analysis
18. Program Summary Report generated and distributed

Participating teachers are free to implement the program to coincide with their lesson plans and class schedules. Appendix C provides a comprehensive list of classrooms in grade 6 that participated during the 2018-2019 school year.

Resource Action Programs (RAP) has been in the business of designing and implementing energy and water efficiency programs for nearly three decades. Throughout this time we've built an expert team of industry professionals that deliver a seamless program to achieve your goals.

We designed the Simi Valley LivingWise® Program in our program center from the ground up. Working in conjunction with Golden State Water, we identified goals, desired outcomes of the program, and specific materials' customization. The result is a stimulating program that delivers significant and measurable resource savings. The Simi Valley LivingWise Program features a proven blend of innovative education, comprehensive implementation services, and hands-on activities to put efficiency knowledge to work in homes throughout the Simi Valley service territory.

The Simi Valley LivingWise Program is a reflection of true teamwork. On behalf of the entire implementation team at Resource Action Programs, I would like to thank you for the opportunity to design and implement the Simi Valley LivingWise Program. It has been a pleasure working with you. I look forward to many more years of program success.

Sincerely,



Kevin Flom
Program Consultant



Chase Griswold
Program Manager

Program Team

Program Team

The success of the Simi Valley LivingWise® Program is owed to a cross-functional implementation team chosen specifically to meet the goals of the program. We incorporated both a PMP® certified Program Manager and a CEM® designated energy analyst to ensure the program hits key milestones and delivers results. These thought leaders are supported by an integral mix of specialists working in unity to accomplish your program objectives. The Simi Valley LivingWise Program implementation team consisted of the following:

Outreach

Our outreach team is the face of the Simi Valley LivingWise Program, introducing teachers to the program, and providing support throughout implementation to guarantee the program's success in the classroom. This group builds relationships and keeps teachers engaged in program execution year after year.

Graphic Design and Marketing

Expertly-designed kits and program materials are a result of our Graphic Design and Marketing teams. This group provides brand alignment and marketing strategies to ensure program branding is within guidelines. Additionally, this team facilitates copy and art direction and works with education to develop end-user activities.

Education

Led by a Ph.D. educator having both classroom and administration leadership experience, this team is responsible for the development of educational content as well as classroom energy literacy and engagement. The group also ensures the program's content is aligned with California state expectations in science, math, and language as well as the rigorous expectations of STEM (Science, Technology, Engineering, and Math).

Information Technology

We leave IT strategy and cyber security in the hands of our experts. This team built and manages the integrated systems responsible for seamlessly blending operations, driving automation, and maximizing participation in the Simi Valley LivingWise Program. This group provides the managed data services and software in support of outreach, enrollment, order processing, fulfillment, data collection and reporting.

Warehouse and Logistics

Last but not least, our warehouse and logistics teams guarantee Simi Valley LivingWise program materials reach the classroom on-time and without errors. This group provides printing, purchasing, production, quality assurance & control, warehousing and shipping for all program materials. Additionally, this team ensures that all materials are consistent with orders and confirms delivery.

“Upon completion of the program, participating families are asked to complete a home survey to assess their resource use, verify product installation, provide demographic information, and measure participation rates.”

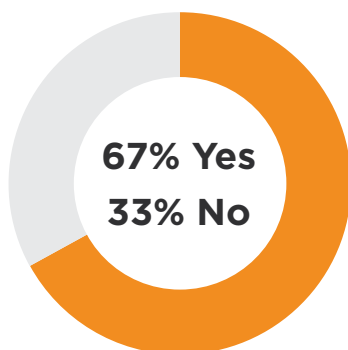
Program Impact

The Simi Valley LivingWise® Program has had a significant impact within the community. As illustrated below, the program successfully educated participants about energy and water efficiency while generating resource savings through the installation of efficiency measures in homes. Home survey information was collected to track projected savings and provide household consumption and demographic data. Program evaluations and comments were collected from teachers, students, and parents.

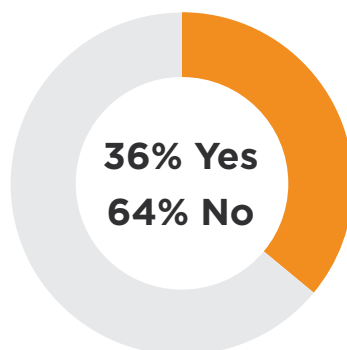
A. Home Survey

Upon completion of the program, participating families are asked to complete a home survey to assess their resource use, verify product installation, provide demographic information, and measure participation rates. A few samples of questions asked are below while a complete summary of all responses is included in the appendices.

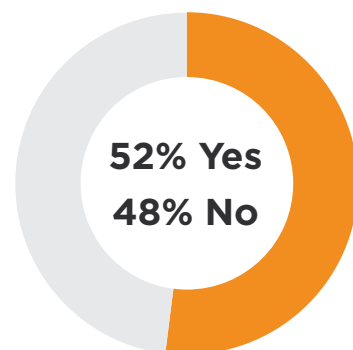
Did you work with your family on this program?	Yes - 67%
Did your family change the way they use water?	Yes - 36%
Did your family change the way they use energy?	Yes - 52%



Students who indicated they worked with their family on this program.



Students who indicated their family changed the way they use water.

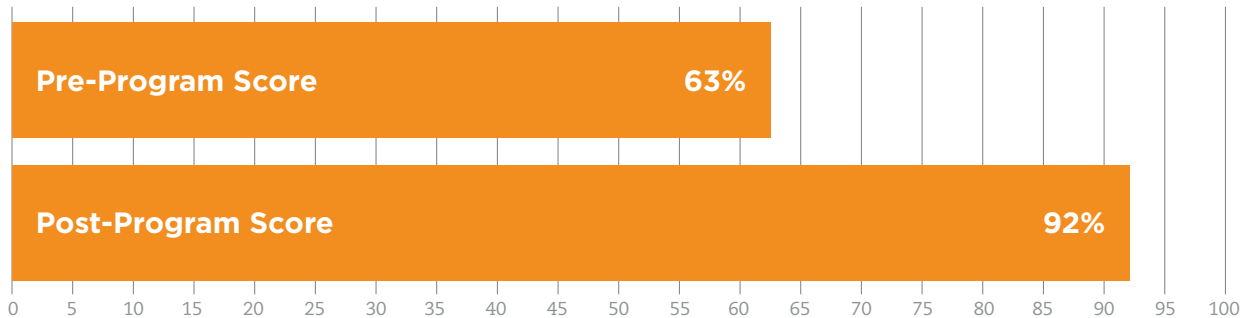


Students who indicated their family changed the way they use energy.

B. Pre-Program and Post-Program Tests

Students were asked to complete a 10-question test before the program was introduced and then again after it was completed to determine the knowledge gained through the program. The average student answered **6.3** questions correctly prior to being involved in the program and then improved to answer **9.2** questions correctly following participation.

Scores improved from 63% to 92%.



C. Home Activities

As part of the program, parents and students installed resource efficiency measures in their homes. They also measured the pre-existing devices to calculate savings that they generated. Using the family habits collected from the home survey as the basis for this calculation, 138 households are expected to save the following resource totals. Savings from these actions and new behaviors will continue for many years to come.

Projected Resource Savings

A list of assumptions and formulas used for these calculations can be found in Appendix A.

Number of Participants:	138	
	Annual	Lifetime
Projected reduction from First Showerhead retrofit:	492,496	4,924,957 gallons
Product Life: 10 years	12,134	121,339 kWh
	2,629	26,290 therms
Projected reduction from Second Showerhead retrofit:	378,362	3,783,618 gallons
Product Life: 10 years	9,322	93,219 kWh
	2,020	20,197 therms
Projected reduction from Kitchen Faucet Aerator retrofit:	144,527	722,633 gallons
Product Life: 5 years	2,572	12,860 kWh
	571	2,853 therms
Projected reduction from First Bathroom Faucet Aerator retrofit:	295,375	1,476,873 gallons
Product Life: 5 years	5,257	26,283 kWh
	1,166	5,831 therms
Projected reduction from Second Bathroom Faucet Aerator retrofit:	156,375	781,874 gallons
Product Life: 5 years	2,783	13,915 kWh
	617	3,087 therms
Projected reduction from FilterTone® installation:	879	8,785 kWh
Product Life: 10 years	49	488 therms
Projected reduction from the Toilet Leak repair:	5,339	26,693 gallons
Estimated Useful Life (EUL): 5 years		
TOTAL PROGRAM SAVINGS:	1,472,472	11,716,647 gallons
	32,946	276,401 kWh
	7,052	58,746 therms
TOTAL PROGRAM SAVINGS PER HOUSEHOLD:	10,670	84,903 gallons
	239	2,003 kWh
	51	426 therms

D. Teacher Program Evaluation

Program improvements are based on participant feedback received. One of the types of feedback obtained is from participating teachers via a Teacher Program Evaluation Form. They are asked to evaluate relevant aspects of the program and each response is reviewed for pertinent information. The following is feedback from the Teacher Program Evaluation for the Simi Valley LivingWise Program.

Teacher Response

(A summary of responses can be found in Appendix D)

100% of participating teachers indicated they would conduct the program again given the opportunity.

100% of participating teachers indicated they would recommend the program to their colleagues.

In my opinion, the thing the students like best about the program/materials is:

"Students enjoyed learning about conservation and receiving the box of tools."

Madeline Wagner, Park View Elementary School

In the future, one thing I would change would be:

"I would not send quite so many tools home at once."

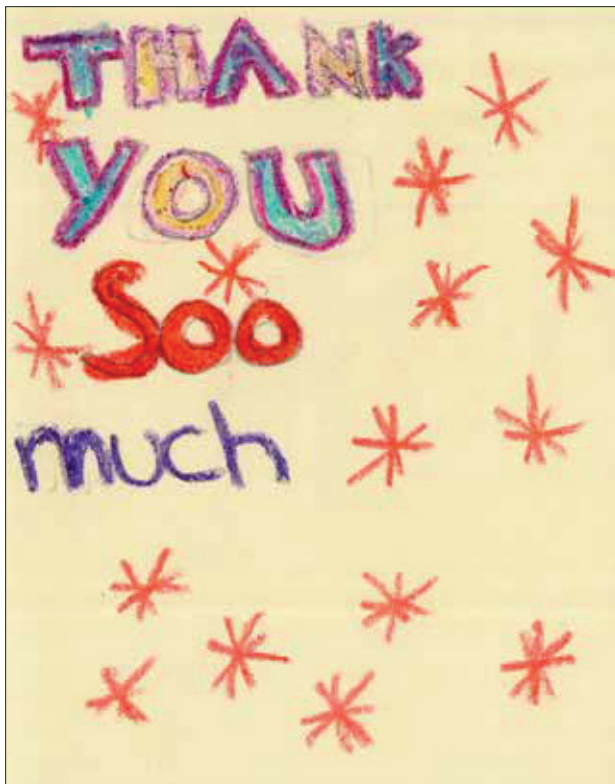
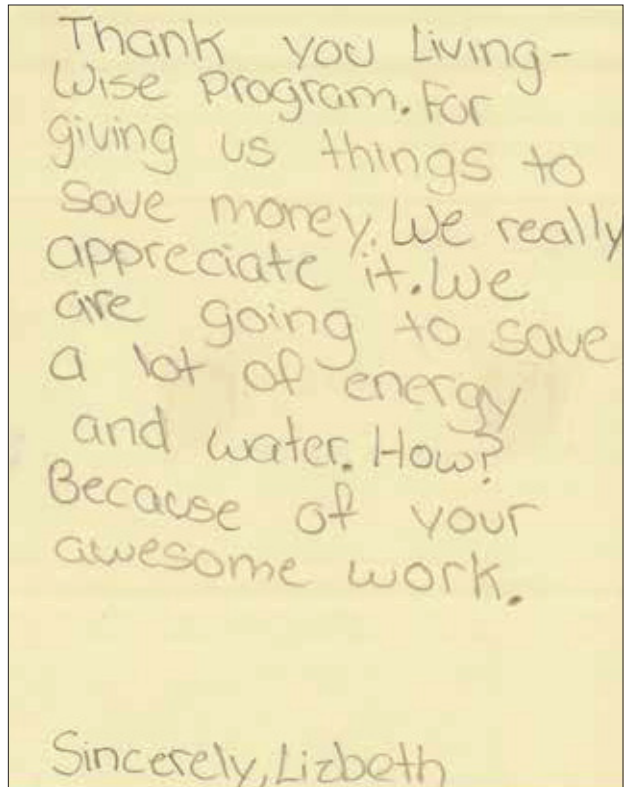
Madeline Wagner, Park View Elementary School

E. Student Letters



Student Letters

(continued)



Student Letters

(continued)



“All program materials support state and national academic standards to allow the program to fit easily into a teacher’s existing curriculum and requirements.”

Appendices

Appendix A

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Projected Savings from First Showerhead Retrofit

First Showerhead retrofit inputs and assumptions:

Average household size:	5.17	people ¹
Average number of full bathrooms per home:	1.25	full bathrooms per home ¹
% of water heated by gas:	81.25%	¹
% of water heated by electricity:	18.75%	¹
Installation / participation rate of:	31.82%	¹
Average Showerhead has a flow rate of:	2.37	gallons per minute ¹
Retrofit Showerhead has flow rate of:	1.02	gallons per minute ¹
Number of participants:	138	¹
Shower duration:	8.20	minutes per day ²
Showers per day per person:	0.67	showers per day ²
Product life:	10.00	years ³

Projected Water Savings:

Showerhead retrofit projects an annual reduction of:	492,496	gallons ⁴
Showerhead retrofit projects a lifetime reduction of:	4,924,957	gallons ⁵

Projected Electricity Savings:

Showerhead retrofit projects an annual reduction of:	12,134	kWh ^{2,6}
Showerhead retrofit projects a lifetime reduction of:	121,339	kWh ^{2,7}

Projected Natural Gas Savings:

Showerhead retrofit projects an annual reduction of:	2,629	therms ^{2,8}
Showerhead retrofit projects a lifetime reduction of:	26,290	therms ^{2,9}

¹ Data Reported by Program Participants.

² (March 4, 2010). EPA WaterSense® Specification for Showerheads Supporting Statement. Retrieved from http://www.epa.gov/WaterSense/docs/showerheads_finalsupstat508.pdf

³ Provided by manufacturer.

⁴ [(Average Household Size x Shower Duration x Showers per Day per Person) ÷ Average Number of Full Bathrooms per Home] x (Average Showerhead Flow Rate - Retrofit Showerhead Flow Rate) x Number of Participants x Installation Rate x 365 days

⁵ [(Average Household Size x Shower Duration x Showers per Day per Person) ÷ Average Number of Full Bathrooms per Home] x (Average Showerhead Flow Rate - Retrofit Showerhead Flow Rate) x Number of Participants x Installation Rate x 365 days x Product Life

⁶ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.18 kWh/gal x % of Water Heated by Electricity

⁷ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.18 kWh/gal x % of Water Heated by Electricity x Product Life

⁸ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.009 Therms/gal x % of Water Heated by Natural Gas

⁹ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.009 Therms/gal x % of Water Heated by Natural Gas x Product Life

Projected Savings from Second Showerhead Retrofit

Second Showerhead retrofit inputs and assumptions:

Average household size:	5.17	people ¹
Average number of full bathrooms per home:	1.25	full bathrooms per home ¹
% of water heated by gas:	81.25%	¹
% of water heated by electricity:	18.75%	¹
Installation / participation rate of:	24.44%	¹
Average Showerhead has a flow rate of:	2.37	gallons per minute ¹
Retrofit Showerhead has flow rate of:	1.02	gallons per minute ¹
Number of participants:	138	¹
Shower duration:	8.20	minutes per day ²
Showers per day per person:	0.67	showers per day ²
Product life:	10.00	years ³

Projected Water Savings:

Showerhead retrofit projects an annual reduction of:	378,362	gallons ⁴
Showerhead retrofit projects a lifetime reduction of:	3,783,618	gallons ⁵

Projected Electricity Savings:

Showerhead retrofit projects an annual reduction of:	9,322	kWh ^{2,6}
Showerhead retrofit projects a lifetime reduction of:	93,219	kWh ^{2,7}

Projected Natural Gas Savings:

Showerhead retrofit projects an annual reduction of:	2,020	therms ^{2,8}
Showerhead retrofit projects a lifetime reduction of:	20,197	therms ^{2,9}

¹ Data Reported by Program Participants.

² (March 4, 2010). EPA WaterSense® Specification for Showerheads Supporting Statement. Retrieved from http://www.epa.gov/WaterSense/docs/showerheads_finalsupstat508.pdf

³ Provided by manufacturer.

⁴ [(Average Household Size x Shower Duration x Showers per Day per Person) ÷ Average Number of Full Bathrooms per Home] x (Average Showerhead Flow Rate - Retrofit Showerhead Flow Rate) x Number of Participants x Installation Rate x 365 days

⁵ [(Average Household Size x Shower Duration x Showers per Day per Person) ÷ Average Number of Full Bathrooms per Home] x (Average Showerhead Flow Rate - Retrofit Showerhead Flow Rate) x Number of Participants x Installation Rate x 365 days x Product Life

⁶ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.18 kWh/gal x % of Water Heated by Electricity

⁷ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.18 kWh/gal x % of Water Heated by Electricity x Product Life

⁸ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.009 Therms/gal x % of Water Heated by Natural Gas

⁹ Projected Annual Water Savings x Percent of Water that is Hot Water x 0.009 Therms/gal x % of Water Heated by Natural Gas x Product Life

Projected Savings from Kitchen Faucet Aerator Retrofit

Kitchen Faucet Aerator retrofit inputs and assumptions:

Average household size:	5.17	people ¹
% of homes with a dishwasher:	70.21%	¹
% of homes without a dishwasher:	29.79%	¹
% of water heated by gas:	81.25%	¹
% of water heated by electricity:	18.75%	¹
Installation / participation rate of:	28.89%	¹
Number of participants:	138	¹
Average Kitchen Faucet Aerator has a flow rate of:	2.50	gallons per minute ²
Retrofit Kitchen Faucet Aerator has flow rate of:	1.50	gallons per minute ³
Product life:	5.00	years ³
Length of use without dishwasher:	15.00	minutes per day ⁴
Length of use without dishwasher (each family member):	1.00	minute per day ⁴
Length of use with dishwasher:	3.00	minutes per day ⁴
Length of use with dishwasher (each family member):	0.50	minutes per day ⁴

Projected Water Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	144,527	gallons ⁵
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	722,633	gallons ⁶

Projected Electricity Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	2,572	kWh ^{4,7}
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	12,860	kWh ^{4,8}

Projected Natural Gas Savings:

Kitchen Faucet Aerator retrofit projects an annual reduction of:	571	therms ^{4,9}
Kitchen Faucet Aerator retrofit projects a lifetime reduction of:	2,853	therms ^{4,10}

¹ Data Reported by Program Participants.

² Vickers, Amy (2002). *Water Use and Conservation*. Amherst, MA: WaterPlow Press.

³ Provided by manufacturer.

⁴ Quantec, LLC. (2008). *Impact of Flipping the Switch: Evaluating the Effectiveness of Low Income Residential Energy Education Programs*. Portland: Drakos, Jamie et al.

⁵ $\{ \text{Length of use without dishwasher} + [\text{Average household size} \times \text{Length of use without dishwasher (each family member)}] \} \times \% \text{ of homes without dishwasher} + \{ \text{Length of use with dishwasher} + [\text{Average household size} \times \text{Length of use with dishwasher (each family member)}] \} \times \% \text{ of homes with dishwasher} \times [\text{Average Kitchen Aerator flow rate} - \text{Retrofit Kitchen Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days}$

⁶ $\{ \text{Length of use without dishwasher} + [\text{Average household size} \times \text{Length of use without dishwasher (each family member)}] \} \times \% \text{ of homes without dishwasher} + \{ \text{Length of use with dishwasher} + [\text{Average household size} \times \text{Length of use with dishwasher (each family member)}] \} \times \% \text{ of homes with dishwasher} \times [\text{Average Kitchen Aerator flow rate} - \text{Retrofit Kitchen Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days} \times \text{Product Life}$

⁷ $\text{Projected Annual Water Savings} \times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁸ $\text{Projected Lifetime Water Savings} \times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁹ $\text{Projected Annual Water Savings} \times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

¹⁰ $\text{Projected Lifetime Water Savings} \times [(8.33 \text{ lbs.} / \text{gallon} \times 35^\circ \text{F}\Delta T) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

Projected Savings from the First Bathroom Faucet Aerator Retrofit

Bathroom Faucet Aerator retrofit inputs and assumptions:

Average household size:	5.17	people ¹
% of water heated by gas:	81.25%	¹
% of water heated by electricity:	18.75%	¹
Installation / participation rate of:	37.78%	¹
Number of participants:	138	¹
Average Bathroom Faucet Aerator has a flow rate of:	2.50	gallons per minute ²
Retrofit Bathroom Faucet Aerator has flow rate of:	0.50	gallons per minute ³
Product life:	5.00	years ³
Length of use (per family member):	1.50	minutes per day ⁴

Projected Water Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	295,375	gallons ⁵
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	1,476,873	gallons ⁶

Projected Electricity Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	5,257	kWh ^{4,7}
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	26,283	kWh ^{4,8}

Projected Natural Gas Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	1,166	therms ^{4,9}
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	5,831	therms ^{4,10}

¹ Data Reported by Program Participants.

² Vickers, Amy (2002). Water Use and Conservation. Amherst, MA: WaterFlow Press.

³ Provided by manufacturer.

⁴ Quantec, LLC. (2008). Impact of Flipping the Switch: Evaluating the Effectiveness of Low Income Residential Energy Education Programs. Portland: Drakos, Jamie et al.

⁵ [Length of use (each family member) x Average household size] x [Average Bathroom Aerator flow rate – Retrofit Bathroom Aerator flow rate] x Number of participants x Installation rate x 365 days

⁶ [Length of use (each family member) x Average household size] x [Average Bathroom Aerator flow rate – Retrofit Bathroom Aerator flow rate] x Number of participants x Installation rate x 365 days x Product Life

⁷ Projected Annual Water Savings x [(8.33lbs. / gallon x 35°FΔT) ÷ (3413 x water heater efficiency (0.90))] x % of Water Heated by Electricity

⁸ Projected Lifetime Water Savings x [(8.33lbs. / gallon x 35°FΔT) ÷ (3413 x water heater efficiency (0.90))] x % of Water Heated by Electricity

⁹ Projected Annual Water Savings x [(8.33lbs. / gallon x 35°FΔT) ÷ (100,000 x water heater efficiency (0.60))] x % of Water Heated by Natural Gas

¹⁰ Projected Lifetime Water Savings x [(8.33lbs. / gallon x 35°FΔT) ÷ (100,000 x water heater efficiency (0.60))] x % of Water Heated by Natural Gas

Projected Savings from the Second Bathroom Faucet Aerator Retrofit

Bathroom Faucet Aerator retrofit inputs and assumptions:

Average household size:	5.17	people ¹
% of water heated by gas:	81.25%	¹
% of water heated by electricity:	18.75%	¹
Installation / participation rate of:	20.00%	¹
Number of participants:	138	¹
Average Bathroom Faucet Aerator has a flow rate of:	2.50	gallons per minute ²
Retrofit Bathroom Faucet Aerator has flow rate of:	0.50	gallons per minute ³
Product life:	5.00	years ³
Length of use (per family member):	1.50	minutes per day ⁴

Projected Water Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	156,375	gallons ⁵
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	781,874	gallons ⁶

Projected Electricity Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	2,783	kWh ^{4,7}
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	13,915	kWh ^{4,8}

Projected Natural Gas Savings:

Bathroom Faucet Aerator retrofit projects an annual reduction of:	617	therms ^{4,9}
Bathroom Faucet Aerator retrofit projects a lifetime reduction of:	3,087	therms ^{4,10}

¹ Data Reported by Program Participants.

² Vickers, Amy (2002). *Water Use and Conservation*. Amherst, MA: WaterFlow Press.

³ Provided by manufacturer.

⁴ Quantec, LLC. (2008). *Impact of Flipping the Switch: Evaluating the Effectiveness of Low Income Residential Energy Education Programs*. Portland: Drakos, Jamie et al.

⁵ $[\text{Length of use (each family member)} \times \text{Average household size}] \times [\text{Average Bathroom Aerator flow rate} - \text{Retrofit Bathroom Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days}$

⁶ $[\text{Length of use (each family member)} \times \text{Average household size}] \times [\text{Average Bathroom Aerator flow rate} - \text{Retrofit Bathroom Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days} \times \text{Product Life}$

⁷ $\text{Projected Annual Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁸ $\text{Projected Lifetime Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

⁹ $\text{Projected Annual Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

¹⁰ $\text{Projected Lifetime Water Savings} \times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

Projected Savings from FilterTone® Alarm Installation

FilterTone® installation inputs and assumptions:

Annual energy (electricity) use by a central system air conditioner:	1,637 kWh ¹
Annual energy (natural gas) use by central space heating or furnace:	173 therms ¹
Projected increase in efficiency (electricity):	1.75% ²
Projected increase in efficiency (natural gas):	0.92% ²
Product life:	10.00 years ³
Installation / participation rate of:	22.22% ⁴
Number of participants:	138 ⁴

Projected Electricity Savings:

The FilterTone installation projects an annual reduction of:	879 kWh ⁵
The FilterTone installation projects a lifetime reduction of:	8,785 kWh ⁶

Projected Natural Gas Savings:

The FilterTone installation projects an annual reduction of:	49 therms ⁷
The FilterTone installation projects a lifetime reduction of:	488 therms ⁸

¹ U.S. Department of Energy, Energy Information Administration 2005 Residential Energy Consumption Web site for California: <http://www.eia.gov/consumption/residential/data/2005/>

² Reichmuth P.E., Howard. (1999). Engineering Review and Savings Estimates for the 'Filtertone' Filter Restriction Alarm.

³ Provided by manufacturer.

⁴ Data reported by program participants.

⁵ Annual energy (electricity) use by a central air conditioner, heat pump or furnace x Projected increase in efficiency (electricity) x Installation rate x Number of participants

⁶ Annual energy (electricity) use by a central air conditioner, heat pump or furnace x Projected increase in efficiency (electricity) x Installation rate x Number of participants x Product life

⁷ Annual energy (natural gas) use by a central air conditioner, heat pump or furnace x Projected increase in efficiency (natural gas) x Installation rate x Number of participants

⁸ Annual energy (natural gas) use by a central air conditioner, heat pump or furnace x Projected increase in efficiency (natural gas) x Installation rate x Number of participants x Product life

Projected Savings from Toilet Leak Repair

Toilet Leak repair inputs and assumptions:

Number of participants:	138	¹
% of toilets leaking:	8.89%	¹
% of toilets where the leak was repaired:	3.45%	¹
Number of homes with fixed toilet leaks:	0.42	¹
USGS gallons lost per year per leak:	12,621.29	GPY per leak ²
EUL:	5.00	years ³

Projected Water Savings:

Toilet Leak repair projects an annual reduction of:	5,339	gallons/year ⁴
Toilet Leak repair projects a lifetime reduction of:	26,693	gallons ⁵

¹ Data reported by program participants.

² <http://www.epa.gov/WaterSense/pubs/fixleak.html>

³ Estimation of years before toilet begins leaking again. Frontier and Associates

⁴ USGS gallons lost per year per leak x 1 leak per home x Number of homes with fixed toilet leaks

⁵ USGS gallons lost per year per leak x 1 leak per home x Number of homes with fixed toilet leaks x Product Life

Home Check-Up

1 What type of home do you live in?	
Single Family Home	48%
Multi-Family Home (2-4 units)	25%
Multi-Family home (5-20 units)	23%
Multi-Family home (21+ units)	4%
2 Was your home built before 1992?	
Yes	94%
No	6%
3 Is your home owned or rented?	
Owned	40%
Rented	60%
4 How many kids live in your home (age 0-17)?	
1	21%
2	19%
3	19%
4	17%
5+	25%
5 How many adults live in your home (age 18+)?	
1	2%
2	34%
3	19%
4	15%
5+	30%
6 What is the main source of heating in your home?	
Natural Gas	81%
Electricity	13%
Propane	0%
Heating Oil	2%
Wood	0%
Other	4%
7 Does your home have a programmable thermostat?	
Yes	50%
No	50%
8 Does your home have a dishwasher?	
Yes	70%
No	30%

Due to rounding of numbers, percentages may not add up to 100%

Home Check-Up

(continued)

9 How many half-bathrooms are in your home?

0	77%
1	21%
2	2%
3	0%
4+	0%

10 How many full bathrooms are in your home?

1	35%
2	58%
3	6%
4	0%
5+	0%

11 How many toilets are in your home?

1	23%
2	65%
3	13%
4	0%
5+	0%

12 How is your water heated?

Natural Gas	81%
Electricity	19%

Due to rounding of numbers, percentages may not add up to 100%

Home Activities

1 What is the flow rate of your old showerhead?	
0 - 1.0 GPM	4%
1.1 - 1.5 GPM	9%
1.6 - 2.0 GPM	13%
2.1 - 2.5 GPM	31%
2.6 - 3.0 GPM	29%
3.1+ GPM	13%
2 Did your family install the first new High-Efficiency Showerhead?	
Yes	32%
No	68%
3 If you answered "yes" to question 2, what is the flow rate of your new showerhead?	
0 - 1.0 GPM	35%
1.1 - 1.5 GPM	65%
4 Did your family install the second new High-Efficiency Showerhead?	
Yes	24%
No	76%
5 Did your family lower your water heater settings?	
Yes	51%
No	49%
6 Did your family install the first Bathroom Faucet Aerator?	
Yes	38%
No	62%
7 Did your family install the second Bathroom Faucet Aerator?	
Yes	20%
No	80%
8 Did your family install the Kitchen Faucet Aerator?	
Yes	29%
No	71%
9 Did your family raise the temperature in your refrigerator?	
Yes	64%
No	36%
10 How much did your family turn down the thermostat in winter for heating?	
1 - 2 Degrees	9%
3 - 4 Degrees	22%
5+ Degrees	7%
Didn't Adjust Thermostat	62%

Due to rounding of numbers, percentages may not add up to 100%

Home Activities

(continued)

11 How much did your family turn up the thermostat in summer for cooling?		
1 - 2 Degrees		5%
3 - 4 Degrees		52%
5+ Degrees		7%
Didn't Adjust Thermostat		36%
12 Did your family install the FilterTone® Alarm?		
Yes		22%
No		78%
13 Did you find any toilets leaking?		
Yes, 1		9%
Yes, 2		0%
No		91%
14 If you answered yes to question 13, were the leaks repaired?		
Yes, 1		3%
Yes, 2		0%
No		97%
15 Did your family change the way they water outdoors?		
Yes		22%
No		78%
16 Did you work with your family on this Program?		
Yes		67%
No		33%
17 Did your family change the way they use water?		
Yes		36%
No		64%
18 Did your family change the way they use energy?		
Yes		52%
No		48%
19 How would you rate the LivingWise® Program?		
Excellent		36%
Good		51%
Fair		13%
Poor		0%

Due to rounding of numbers, percentages may not add up to 100%

Participant List

SCHOOL	TEACHER	T	S
Berylwood Elementary School	Melissa Estrada	1	50
Park View Elementary School	Madeline Wagner	1	31
Santa Susana Elementary School	Kenna Acquarelli	1	27
The Phoenix Ranch School West Campus	Vicky Ramirez	1	26
TOTALS		4	134
TOTAL PARTICIPANTS		138	

Note: "T" represents number of teachers and "S" represents number of students

Teacher Program Evaluation Data

1 The materials were attractive and easy to use.		
Strongly Agree		0%
Agree		100%
Disagree		0%
Strongly Disagree		0%
2 The materials and activities were well received by students.		
Strongly Agree		0%
Agree		100%
Disagree		0%
Strongly Disagree		0%
3 The materials were clearly written and well organized.		
Strongly Agree		0%
Agree		100%
Disagree		0%
Strongly Disagree		0%
4 The conservation technologies were easy for students to use.		
Strongly Agree		0%
Agree		0%
Disagree		100%
Strongly Disagree		0%
5 Students indicated that their parents supported the program.		
Strongly Agree		0%
Agree		0%
Disagree		100%
Strongly Disagree		0%
6 If you had the opportunity, would you conduct this program again?		
Yes		0%
No		100%
7 Would you recommend this program to other colleagues?		
Yes		100%
No		0%

Due to rounding of numbers, percentages may not add up to 100%



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"Working Today for Water Tomorrow"

The Sonoma County Water Agency's Integrated Management Policy for ISO 9001 and 14001 states that we are committed to always improving, achieving customer satisfaction, total regulatory compliance, environmental stewardship, and resource management.

Agreement for Water Education School Assembly Program 2012/2013 and 2013/2014

This agreement ("Agreement") is by and between Sonoma County Water Agency, a body corporate and politic of the State of California ("Water Agency") and Gwynne Cropsey dba ZunZun, a sole proprietorship ("Consultant"). The Effective Date of this Agreement is the date the Agreement is last signed by the parties to the Agreement, unless otherwise specified in Article 5 (Term of Agreement).

RECITALS

- A. Consultant represents that it is a duly qualified performing arts group, experienced in performing at school assemblies for the purpose of water education.
- A. The Water Education School Assembly Program is one component of the Water Agency's Education Program and is designed to help educators teach their students the value of water as an important natural resource and to promote water conservation and stewardship.
- B. The Water Education School Assembly Program assists both the Water Agency and the County of Sonoma in meeting stormwater outreach co-permittee requirements.

In consideration of the foregoing recitals and the mutual covenants contained herein, the parties hereto agree as follows:

AGREEMENT

1. RECITALS

- 1.1. The above recitals are true and correct.

2. LIST OF EXHIBITS

- 2.1. The following exhibits are attached hereto and incorporated herein:
 - a. Exhibit A: Scope of Work
 - b. Exhibit B: Insurance Requirements
 - c. Exhibit C: Waiver of Insurance Requirements

3. SCOPE OF SERVICES

- 3.1. *Consultant's Specified Services.* Consultant shall perform the services described in Exhibit A ("Scope of Work"), within the times or by the dates provided for in

Exhibit A and pursuant to Article 9 (Prosecution of Work). In the event of a conflict between the body of this Agreement and Exhibit A, the provisions in the body of this Agreement shall control.

- 3.2. *Cooperation with Water Agency.* Consultant shall cooperate with Water Agency in the performance of all work hereunder. Consultant shall coordinate the work with Water Agency's Project Manager. Contact information and mailing addresses:

Water Agency	Consultant
Project Manager: Cary Olin	Contact: Gwynne Cropsey
404 Aviation Boulevard	PO Box 2951
Santa Rosa, CA 95403-9019	Santa Cruz, CA 95063
Phone: 707-521-6211	Phone: 831-426-0684
Email: cbo@scwa.ca.gov	Email: zunzun@zunzuntunes.com
	Remit payments to:
	Attn: Accounts Receivable
	Same as above.

- 3.3. *Performance Standard and Standard of Care.* Consultant hereby agrees that all its work will be performed and that its operations shall be conducted in accordance with the requirements of applicable federal, state and local laws, it being understood that acceptance of Consultant's work by Water Agency shall not operate as a waiver or release. Water Agency has relied upon the professional ability and training of Consultant as a material inducement to enter into this Agreement. Consultant hereby agrees that its work will be performed and its operations conducted in accordance with the standards of a reasonable professional having specialized knowledge and expertise in the services provided under this Agreement. If Water Agency determines that any of Consultant's work is not in accordance with such level of competency and standard of care, Water Agency, in its sole discretion, shall have the right to do any or all of the following: (a) require Consultant to meet with Water Agency to review the quality of the work and resolve matters of concern; (b) require Consultant to repeat the work at no additional charge until it is satisfactory; (c) terminate this Agreement pursuant to the provisions of Article 6 (Termination); or (d) pursue any and all other remedies at law or in equity.

3.4. *Assigned Personnel.*

- a. Consultant shall assign only competent personnel to perform work hereunder. In the event that at any time Water Agency, in its sole discretion, desires the removal of any person or persons assigned by Consultant to perform work hereunder, Consultant shall remove such person or persons immediately upon receiving written notice from Water Agency.
- b. Any and all persons identified in this Agreement or any exhibit hereto as the project manager, project team, or other professional performing work

hereunder are deemed by Water Agency to be key personnel whose services were a material inducement to Water Agency to enter into this Agreement, and without whose services Water Agency would not have entered into this Agreement. Consultant shall not remove, replace, substitute, or otherwise change any key personnel without the prior written consent of Water Agency.

- c. In the event that any of Consultant's personnel assigned to perform services under this Agreement become unavailable due to resignation, sickness, or other factors outside of Consultant's control, Consultant shall be responsible for timely provision of adequately qualified replacements.

4. PAYMENT

- 4.1. *Total Costs:* Total costs under this Agreement shall not exceed \$60,000.
- 4.2. *Method of Payment:* For all services and Incidental costs required hereunder, Consultant shall be paid in accordance with the following terms:
 - a. *Start-up Costs.* Upon execution of this Agreement and receipt of an invoice thereof, Consultant shall be paid \$8,000 for preparation, marketing, and program development costs.
 - b. *Per School Cost.* Consultant shall be paid \$850 per school, which includes all assemblies, materials, and other costs for said school.
 - c. *Payment for Cancelled Assemblies.* Should a school cancel a scheduled assembly within one week of the performance date and Consultant is unable to reschedule or replace the cancelled assembly with another school, Consultant will be paid for the originally scheduled assembly at the per school cost listed above.
 - d. *No Payment for Expenses.* Consultant shall not be entitled to reimbursement for expenses incurred in completion of the services.
- 4.3. *Invoices:* Consultant shall submit its bills based on work completed for the period in a form approved by Water Agency's Project Manager. The bills shall show or include:
 - a. Consultant name
 - b. Name of Agreement
 - c. Water Agency's Order Number(s) 3280A8, 3246B1, 3954A8, and 3954A9; and Account Number(s) 672105-6570, 673202-6570, 673301-6570, and 673400-6570
 - d. Task performed with an itemized description of services rendered by date
- 4.4. *Availability of Funding in Subsequent Fiscal Years:*
 - a. Water Agency's performance under this Agreement in subsequent years is contingent upon appropriation of funds by Water Agency's Board of Directors. Water Agency shall have no liability under this Agreement if

sufficient funds are not appropriated in subsequent fiscal years by Water Agency's Board of Directors for the purpose of this Agreement. Amount of funding planned for appropriation for this Agreement is as follows:

<i>Fiscal Year</i>	<i>Planned Appropriation</i>
2012/2013	\$30,000
2013/2014	\$30,000
Total for Two Years	\$60,000

- b. If funding for this Agreement for any fiscal year is reduced or eliminated by Water Agency's Board of Directors, Water Agency shall have the option to either terminate this Agreement in accordance with Article 6 (Termination) or offer an amendment to Consultant to reflect the reduced amount.

5. **TERM OF AGREEMENT**

- 5.1. This Agreement shall expire on June 30, 2014, unless terminated earlier in accordance with the provisions of Article 6 (Termination).

6. **TERMINATION**

- 6.1. *Termination Without Cause:* Notwithstanding any other provision of this Agreement, at any time and without cause, Water Agency shall have the right, in its sole discretion, to terminate this Agreement by giving 5 days written notice to Consultant.
- 6.2. *Termination for Cause:* Notwithstanding any other provision of this Agreement, should Consultant fail to perform any of its obligations hereunder, within the time and in the manner herein provided, or otherwise violate any of the terms of this Agreement, Water Agency may immediately terminate this Agreement by giving Consultant written notice of such termination, stating the reason for termination.
- 6.3. *Delivery of Work Product and Final Payment Upon Termination:* In the event of termination, Consultant, within 14 days following the date of termination, shall deliver to Water Agency all materials and work product subject to Paragraph 12.7 and shall submit to Water Agency an invoice showing the services performed, hours worked, and copies of receipts for reimbursable expenses up to the date of termination.
- 6.4. *Payment Upon Termination:* Upon termination of this Agreement by Water Agency, Consultant shall be entitled to receive as full payment for all services satisfactorily rendered and expenses incurred hereunder, an amount which bears the same ratio to the total payment specified in the Agreement as the services satisfactorily rendered hereunder by Consultant bear to the total services otherwise required to be performed for such total payment; provided, however, that if services are to be paid on a per-hour or per-day basis, then Consultant shall be entitled to receive as full payment an amount equal to the number of hours or days actually worked prior to termination times the

applicable hourly or daily rate; and further provided, however, that if Water Agency terminates the Agreement for cause pursuant to Paragraph 6.2, Water Agency shall deduct from such amounts the amount of damage, if any, sustained by Water Agency by virtue of the breach of the Agreement by Consultant.

- 6.5. *Authority to Terminate:* Water Agency's right to terminate may be exercised by Water Agency's General Manager.

7. INDEMNIFICATION

- 7.1. Consultant agrees to accept all responsibility for loss or damage to any person or entity, including Water Agency, and to indemnify, hold harmless, and release Water Agency, its officers, agents, and employees, from and against any actions, claims, damages, liabilities, disabilities, or expenses, that may be asserted by any person or entity, including Consultant, that arise out of, pertain to, or relate to Consultant's performance or obligations under this Agreement. Consultant agrees to provide a complete defense for any claim or action brought against Water Agency based upon a claim relating to Consultant's performance or obligations under this Agreement. Consultant's obligations under this Paragraph 7 apply whether or not there is concurrent negligence on the part of Water Agency, but, to the extent required by law, excluding liability due to conduct of Water Agency. Water Agency shall have the right to select its legal counsel at Consultant's expense, subject to Consultant's approval, which shall not be unreasonably withheld. This indemnification obligation is not limited in any way by any limitation on the amount or type of damages or compensation payable to or for Consultant or its agents under workers' compensation acts, disability benefits acts, or other employee benefit acts. This indemnity provision survives the Agreement.

8. INSURANCE

- 8.1. With respect to performance of work under this Agreement, Consultant shall maintain and shall require all of its subcontractors, consultants, and other agents to maintain, insurance as described in Exhibit B.

9. PROSECUTION OF WORK

- 9.1. Performance of the services hereunder shall be completed within the time required herein, provided, however, that if the performance is delayed by earthquake, flood, high water, or other Act of God or by strike, lockout, or similar labor disturbances, the time for Consultant's performance of this Agreement shall be extended by a number of days equal to the number of days Consultant has been delayed.

10. EXTRA OR CHANGED WORK

10.1. Extra or changed work or other changes to the Agreement may be authorized only by written amendment to this Agreement, signed by both parties. Minor changes, which do not increase the amount paid under the Agreement, and which do not significantly change the scope of work or significantly lengthen time schedules may be executed by the Water Agency's General Manager in a form approved by County Counsel. The parties expressly recognize that Water Agency personnel are without authorization to order all other extra or changed work or waive Agreement requirements. Failure of Consultant to secure such written authorization for extra or changed work shall constitute a waiver of any and all right to adjustment in the Agreement price or Agreement time due to such unauthorized work and thereafter Consultant shall be entitled to no compensation whatsoever for the performance of such work. Consultant further expressly waives any and all right or remedy by way of restitution and quantum meruit for any and all extra work performed without such express and prior written authorization of Water Agency.

11. CONTENT ONLINE ACCESSIBILITY

- 11.1. *Accessibility:* Water Agency policy requires that all documents that may be published to the Web meet accessibility standards to the greatest extent possible, and utilizing available existing technologies.
- 11.2. *Standards:* All consultants responsible for preparing content intended for use or publication on a Water Agency/County-managed or Water Agency/County-funded web site must comply with applicable federal accessibility standards established by 36 C.F.R. Section 1194, pursuant to Section 508 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794(d)), and Water Agency's Web Site Accessibility Policy located at <http://webstandards.sonoma-county.org>.
- 11.3. *Certification:* With each final deliverable intended for public distribution (report, presentations posted to the Internet, public outreach materials), Consultant shall include a descriptive summary describing how all deliverable documents were assessed for accessibility (e.g. Microsoft Word accessibility check; Adobe Acrobat accessibility check, or other commonly accepted compliance check).
- 11.4. *Alternate Format:* When it is strictly impossible due to the unavailability of technologies required to produce an accessible document, Consultant shall identify the anticipated accessibility deficiency prior to commencement of any work to produce such deliverables. Consultant agrees to cooperate with Water Agency staff in the development of alternate document formats to maximize the facilitative features of the impacted document(s); e.g., embedding the document with alt-tags that describe complex data/tables.
- 11.5. *Noncompliant Materials; Obligation to Cure:* Remediation of any materials that do not comply with Water Agency's Web Site Accessibility Policy shall be the

responsibility of Consultant. If Water Agency, in its sole and absolute discretion, determines that any deliverable intended for use or publication on any Water Agency/County-managed or Water Agency/County-funded Web site does not comply with Water Agency Accessibility Standards, Water Agency will promptly inform Consultant in writing. Upon such notice, Consultant shall, without charge to Water Agency, repair or replace the non-compliant materials within such period of time as specified by Water Agency in writing. If the required repair or replacement is not completed within the time specified, Water Agency shall have the right to do any or all of the following, without prejudice to Water Agency's right to pursue any and all other remedies at law or in equity:

- a. Cancel any delivery or task order
- b. Terminate this Agreement pursuant to the provisions of Article 6 (Termination); and/or
- c. In the case of custom EIT developed by Consultant for Water Agency, Water Agency may have any necessary changes or repairs performed by itself or by another contractor. In such event, Consultant shall be liable for all expenses incurred by Water Agency in connection with such changes or repairs.

11.6. *Water Agency's Rights Reserved:* Notwithstanding the foregoing, Water Agency may accept deliverables that are not strictly compliant with Water Agency Accessibility Standards if Water Agency, in its sole and absolute discretion, determines that acceptance of such products or services is in Water Agency's best interest.

12. **REPRESENTATIONS OF CONSULTANT**

12.1. *Status of Consultant:* The parties intend that Consultant, in performing the services specified herein, shall act as an independent contractor and shall control the work and the manner in which it is performed. Consultant is not to be considered an agent or employee of Water Agency and is not entitled to participate in any pension plan, worker's compensation plan, insurance, bonus, or similar benefits Water Agency provides its employees. In the event Water Agency exercises its right to terminate this Agreement pursuant to Article 6 (Termination), Consultant expressly agrees that it shall have no recourse or right of appeal under rules, regulations, ordinances, or laws applicable to employees.

12.2. *Taxes:* Consultant agrees to file federal and state tax returns and pay all applicable taxes on amounts paid pursuant to this Agreement and shall be solely liable and responsible to pay such taxes and other obligations, including, but not limited to, state and federal income and FICA taxes. Consultant agrees to indemnify and hold Water Agency harmless from any liability which it may incur to the United States or to the State of California or to any other public entity as a consequence of Consultant's failure to pay, when due, all such taxes and obligations. In case Water Agency is audited for compliance regarding any withholding or other applicable taxes, Consultant agrees to furnish Water Agency with proof of payment of taxes on these earnings.

- 12.3. **Records Maintenance:** Consultant shall keep and maintain full and complete documentation and accounting records concerning all services performed that are compensable under this Agreement and shall make such documents and records available to Water Agency for inspection at any reasonable time. Consultant shall maintain such records for a period of four (4) years following completion of work hereunder.
- 12.4. **Conflict of Interest:** Consultant covenants that it presently has no interest and that it will not acquire any interest, direct or indirect, that represents a financial conflict of interest under state law or that would otherwise conflict in any manner or degree with the performance of its services hereunder. Consultant further covenants that in the performance of this Agreement no person having any such interests shall be employed. In addition, if required by law or requested to do so by Water Agency, Consultant shall submit a completed Fair Political Practices Commission Statement of Economic Interests (Form 700) with Water Agency within 30 calendar days after the Effective Date of this Agreement and each year thereafter during the term of this Agreement, or as required by state law.
- 12.5. **Nondiscrimination:** Consultant shall comply with all applicable federal, state, and local laws, rules, and regulations in regard to nondiscrimination in employment because of race, color, ancestry, national origin, religion, sex, marital status, age, medical condition, pregnancy, disability, sexual orientation or other prohibited basis. All nondiscrimination rules or regulations required by law to be included in this Agreement are incorporated herein by this reference.
- 12.6. **Assignment of Rights:** Consultant assigns to Water Agency all rights throughout the world in perpetuity in the nature of copyright, trademark, patent, right to ideas, in and to all versions of the plans and specifications, if any, now or later prepared by Consultant in connection with this Agreement. Consultant agrees to take such actions as are necessary to protect the rights assigned to Water Agency in this Agreement, and to refrain from taking any action which would impair those rights. Consultant's responsibilities under this provision include, but are not limited to, placing proper notice of copyright on all versions of the plans and specifications as Water Agency may direct, and refraining from disclosing any versions of the plans and specifications to any third party without first obtaining written permission of Water Agency. Consultant shall not use or permit another to use the plans and specifications in connection with this or any other project without first obtaining written permission of Water Agency.
- 12.7. **Ownership and Disclosure of Work Product:** All reports, original drawings, graphics, plans, studies, and other data or documents ("documents"), in whatever form or format, assembled or prepared by Consultant or Consultant's subcontractors, consultants, and other agents in connection with this Agreement shall be the property of Water Agency. Water Agency shall be entitled to immediate possession of such documents upon completion of the work pursuant

to this Agreement. Upon expiration or termination of this Agreement, Consultant shall promptly deliver to Water Agency all such documents, which have not already been provided to Water Agency in such form or format as Water Agency deems appropriate. Such documents shall be and will remain the property of Water Agency without restriction or limitation. Consultant may retain copies of the above described documents but agrees not to disclose or discuss any information gathered, discovered, or generated in any way through this Agreement without the express written permission of Water Agency.

13. DEMAND FOR ASSURANCE

- 13.1. Each party to this Agreement undertakes the obligation that the other's expectation of receiving due performance will not be impaired. When reasonable grounds for insecurity arise with respect to the performance of either party, the other may in writing demand adequate assurance of due performance and until such assurance is received may, if commercially reasonable, suspend any performance for which the agreed return has not been received. "Commercially reasonable" includes not only the conduct of a party with respect to performance under this Agreement, but also conduct with respect to other agreements with parties to this Agreement or others. After receipt of a justified demand, failure to provide within a reasonable time, but not exceeding thirty (30) days, such assurance of due performance as is adequate under the circumstances of the particular case is a repudiation of this Agreement. Acceptance of any improper delivery, service, or payment does not prejudice the aggrieved party's right to demand adequate assurance of future performance. Nothing in this Article 13 limits Water Agency's right to terminate this Agreement pursuant to Article 6 (Termination).

14. ASSIGNMENT AND DELEGATION

- 14.1. *Consent:* Neither party hereto shall assign, delegate, sublet, or transfer any interest in or duty under this Agreement without the prior written consent of the other, and no such transfer shall be of any force or effect whatsoever unless and until the other party shall have so consented.
- 14.2. *Subcontracts:* Notwithstanding the foregoing, Consultant may enter into subcontracts with the subconsultants specifically identified herein. If no subconsultants are listed, then no subconsultants will be utilized in the performance of the work specified in this Agreement.
- 14.3. *Change of Subcontractors or Subconsultants:* If, after execution of the Agreement, parties agree that subconsultants not listed in Paragraph 14.2 will be utilized, Consultant may enter into subcontracts with subconsultants to perform other specific duties pursuant to the provisions of this paragraph. The following provisions apply to any subcontract entered into by Consultant other than those listed in Paragraph 14.2 above:

- a. Prior to entering into any contract with subconsultant, Consultant shall obtain Water Agency approval of subconsultant. Water Agency's Board of Directors must approve the selection of any subconsultant if the amount payable to subconsultant under the agreement exceeds \$25,000. In connection with such approval, Consultant shall provide Water Agency with copies of the responses to Consultant's Request for Proposals (RFP) to subconsultants, the names of key personnel who will be performing work under the agreement, and an explanation of Consultant's reasons for choosing the recommended subconsultant based upon the criteria in the RFP.

15. METHOD AND PLACE OF GIVING NOTICE, SUBMITTING BILLS, AND MAKING PAYMENTS

- 15.1. *Method of Delivery:* All notices, bills, and payments shall be made in writing and shall be given by personal delivery or by U.S. Mail or courier service. Notices, bills, and payments shall be addressed as specified in Paragraph 3.2.
- 15.2. *Receipt:* When a notice, bill, or payment is given by a generally recognized overnight courier service, the notice, bill, or payment shall be deemed received on the next business day. When a copy of a notice, bill, or payment is sent by electronic means, the notice, bill, or payment shall be deemed received upon transmission as long as (1) the original copy of the notice, bill, or payment is deposited in the U.S. mail and postmarked on the date of the electronic transmission (for a payment, on or before the due date), (2) the sender has a written confirmation of the electronic transmission, and (3) the electronic transmission is transmitted before 5 p.m. (recipient's time). In all other instances, notices, bills, and payments shall be effective upon receipt by the recipient. Changes may be made in the names and addresses of the person to whom notices are to be given by giving notice pursuant to this Article.

16. MISCELLANEOUS PROVISIONS

- 16.1. *No Bottled Water:* In accordance with Water Agency Board of Directors Resolution No. 09-0920, dated September 29, 2009, no Water Agency funding shall be used to purchase single-serving, disposable water bottles for use in Water Agency facilities or at Water Agency-sponsored events. This restriction shall not apply when potable water is not available.
- 16.2. *No Waiver of Breach:* The waiver by Water Agency of any breach of any term or promise contained in this Agreement shall not be deemed to be a waiver of such term or promise or any subsequent breach of the same or any other term or promise contained in this Agreement.
- 16.3. *Construction:* To the fullest extent allowed by law, the provisions of this Agreement shall be construed and given effect in a manner that avoids any violation of statute, ordinance, regulation, or law. The parties covenant and

agree that in the event that any provision of this Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the provisions hereof shall remain in full force and effect and shall in no way be affected, impaired, or invalidated thereby. Consultant and Water Agency acknowledge that they have each contributed to the making of this Agreement and that, in the event of a dispute over the interpretation of this Agreement, the language of the Agreement will not be construed against one party in favor of the other. Consultant and Water Agency acknowledge that they have each had an adequate opportunity to consult with counsel in the negotiation and preparation of this Agreement.

- 16.4. *Consent:* Wherever in this Agreement the consent or approval of one party is required to an act of the other party, such consent or approval shall not be unreasonably withheld or delayed.
- 16.5. *No Third-Party Beneficiaries:* Except as provided in Article 7 (Indemnification), nothing contained in this Agreement shall be construed to create and the parties do not intend to create any rights in third parties.
- 16.6. *Applicable Law and Forum:* This Agreement shall be construed and interpreted according to the substantive law of California, regardless of the law of conflicts to the contrary in any jurisdiction. Any action to enforce the terms of this Agreement or for the breach thereof shall be brought and tried in Santa Rosa or in the forum nearest to the city of Santa Rosa, in the County of Sonoma.
- 16.7. *Captions:* The captions in this Agreement are solely for convenience of reference. They are not a part of this Agreement and shall have no effect on its construction or interpretation.
- 16.8. *Merger:* This writing is intended both as the final expression of the Agreement between the parties hereto with respect to the included terms and as a complete and exclusive statement of the terms of the Agreement, pursuant to Code of Civil Procedure Section 1856. No modification of this Agreement shall be effective unless and until such modification is evidenced by a writing signed by both parties.
- 16.9. *Time of Essence:* Time is and shall be of the essence of this Agreement and every provision hereof.

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date last signed by the parties to the Agreement.

Reviewed as to substance:

By: _____
Water Agency General Manager

Reviewed as to funds:

By: _____
Water Agency Division Manager -
Administrative Services

Reviewed as to form:

By: _____
County Counsel

Gwynne Cropsey dba ZunZun, a sole
proprietorship

By: _____
Gwynne Cropsey
(Please print Owner's name here)

Title: Owner, ZunZun

Date: August 15, 2012

Insurance Documentation is on file with Water
Agency

8/15/12 crt
(Date)

Sonoma County Water Agency

By: _____
Chair, Board of Directors

Date: _____

Attest:

By: _____
Clerk of the Board

Exhibit A

Scope of Work

1. COMMENCEMENT OF WORK

- 1.1. Consultant is authorized to proceed immediately with the performance of this Agreement upon the Effective Date of this Agreement.

2. TASKS

Submit one electronic copy on CD and two hard copies of each final deliverable to Water Agency.

2.1. Task 1: Performances

- a. Perform the program "The Musical Watershed" at 25 schools per fiscal year, in Sonoma County and northern Marin counties, within Water Agency's service area.
- b. Water Agency will provide prizes for game show portion of school-wide assemblies.

Deliverable	Due Date
2012/2013 performances	June 30, 2013
2013/2014 performances	June 30, 2014

2.2. Task 2: Sustainability Component

- a. Develop and include a sustainability component into "The Musical Watershed" program, which includes, but is not limited to, a segment on climate change, a segment on water/energy, and a segment on the benefits of drinking tap water instead of soda or bottled water.
- b. Submit to Water Agency for review and comment at least one month prior to the first scheduled assembly.

Deliverable	Due Date
Sustainability Component	At least 30 calendar days prior to the first scheduled assembly

2.3. Task 3: Pre-site Interactive Activity

- a. Develop a pre-site interactive activity for classroom teacher to facilitate before assembly.
- b. Water Agency will provide prizes (1 per classroom at each school site).
- c. Submit to Water Agency for review and comment at least one month prior to the first scheduled assembly.

Deliverable	Due Date
Draft Pre-site Interactive Activity	Submit to Water Agency at least 30 calendar days prior to each assembly
Final Pre-site Interactive Activity	Submit to school at least 10 calendar days prior to each assembly

2.4. Task 4: Promotional Article

- a. Write a promotional article on the "Musical Watershed Program" that can be included in school newsletters.
- b. Submit to Water Agency for review and comment at least one month prior to the first scheduled assembly.

Deliverable	Due Date
Draft Promotional Article	Submit to Water Agency at least 30 calendar days prior to each assembly
Final Promotional Article	Submit to school at least 10 calendar days prior to each assembly

2.5. Task 5: Booking of Performances

- a. Contact schools on Agency-provided list and book performances where time slots are available based on Water Agency geographic priorities. Send each school a confirmation letter

Deliverable	Due Date
Confirmation Letter	At least 20 calendar days prior to each assembly

2.6. Task 6: Multi-school Assemblies

- a. A minimum of 150 students must attend each performance. If a school has less than 150 students, schedule a multi-school assembly that will ensure the minimum student attendance requirement.
- b. Water Agency will provide venue, if necessary.

Deliverable	Due Date
N/A	N/A

2.7. Task 7: Planning Meeting

- a. Attend a planning meeting with Water Agency staff to develop performance segments

Deliverable	Due Date
Planning Meeting	At least 30 calendar days prior to first assembly

2.8. Task 8: Monthly Summary

- a. Submit a monthly summary of performances to Water Agency. The summary shall include an update of scheduled schools and a summary of performances conducted within the previous month.

Deliverable	Due Date
Monthly Summary	The fifth of each month

Exhibit B

Insurance Requirements

With respect to performance of work under this Agreement, Consultant shall maintain and shall require all of its subcontractors, consultants, and other agents to maintain insurance as described below unless such insurance has been expressly waived by the attachment of a *Waiver of Insurance Requirements*. Any requirement for insurance to be maintained after completion of the work shall survive this Agreement.

1. INSURANCE

1.1. Workers' Compensation and Employers Liability Insurance

- a. Required if Consultant has employees.
- b. Workers' Compensation insurance with statutory limits as required by the Labor Code of the State of California.
- c. Employers' Liability with limits of \$1,000,000 per Accident; \$1,000,000 Disease per employee; \$1,000,000 Disease per policy.
- d. Required Evidence of Coverage:
 - 1. Certificate of Insurance
- e. If Consultant currently has no employees, Consultant agrees to obtain the above-specified Workers' Compensation and Employers' Liability Insurance should any employees be engaged during the term of this Agreement or any extensions of the term.

1.2. General Liability Insurance

- a. Commercial General Liability Insurance on a standard occurrence form, no less broad than ISO form CG 00 01.
- b. Minimum Limits: \$1,000,000 per Occurrence; \$2,000,000 General Aggregate; \$2,000,000 Products/Completed Operations Aggregate.
- c. Consultant shall disclose any deductible or self-insured retention in excess of \$25,000 and such deductible or self-insured retention must be approved in advance by Water Agency. Consultant is responsible for any deductible or self-insured retention.
- d. Sonoma County Water Agency, its officers, agents, and employees, shall be additional insured(s) for liability arising out of operations by or on behalf of the Consultant in the performance of this Agreement.
- e. The insurance provided to Water Agency *et al.* as additional insureds shall apply on a primary and non-contributory basis with respect to any insurance or self-insurance program maintained by them.
- f. The policy definition of "insured contract" shall include assumptions of liability arising out of both ongoing operations and the products-completed

operations hazard (broad form contractual liability coverage including the "f" definition of insured contract in ISO form CG 00 01, or equivalent).

- g. The policy shall cover inter-insured suits between Water Agency and Consultant and include a "separation of insureds" or "severability" clause which treats each insured separately.
- h. Required Evidence of Coverage:
 - i. Copy of the additional insured endorsement or policy language granting additional insured status, and
 - ii. Certificate of Insurance.

1.3. Automobile Liability Insurance

- a. Minimum Limits: \$1,000,000 combined single limit per accident.
- b. Coverage shall apply to all owned autos. If Consultant currently owns no autos, Consultant agrees to obtain such insurance should any autos be acquired during the term of this Agreement or any extensions of the term.
- c. Coverage shall apply to hired and non-owned autos.
- d. Required Evidence of Coverage:
 - i. Certificate of Insurance.

1.4. Standards for Insurance Companies

- a. Insurers shall have an A.M. Best's rating of at least A:VII.

1.5. Documentation

- a. The Certificate of Insurance must include the following reference: TW 11/12-166.
- b. All required Evidence of Coverage shall be submitted prior to the execution of this Agreement. Consultant agrees to maintain current Evidence of Coverage on file with Water Agency for the required period of insurance.
- c. The name and address for mailing Additional Insured endorsements and Certificates of Insurance is: Sonoma County Water Agency, its officers, agents, and employees, 404 Aviation Boulevard, Santa Rosa, CA 95403-9019
- d. Required Evidence of Coverage shall be submitted for any renewal or replacement of a policy that already exists, at least ten (10) days before expiration or other termination of the existing policy.
- e. Consultant shall provide immediate written notice if: (1) any of the required insurance policies is terminated; (2) the limits of any of the required policies are reduced; or (3) the deductible or self-insured retention is increased.
- f. Upon written request, certified copies of required insurance policies must be provided within thirty (30) days.

1.6. Policy Obligations

- a. Consultant's indemnity and other obligations shall not be limited by the foregoing insurance requirements.

1.7. Material Breach

- a. If Consultant fails to maintain insurance coverage which is required pursuant to this Agreement, it shall be deemed a material breach of this Agreement. Water Agency, at its sole option, may terminate this Agreement and obtain damages from Consultant resulting from said breach. Alternatively, Water Agency may purchase the required insurance coverage, and without further notice to Consultant, Water Agency may deduct from sums due to Consultant any premium costs advanced by Water Agency for such insurance. These remedies shall be in addition to any other remedies available to Water Agency.

Section II – Risk Management Waivers

Submit to Risk with Scope of Work Exhibit or detailed description of services or event.

General Liability Waivers

- ☐ Waive requirement for coverage
Reason: _____
- ☐ Waive requirement for additional insured endorsement
Reason: _____
- ☐ Waive primary & non-contributory language (if evidence is required)
Reason: _____

Auto Liability Waivers

- ☐ Accept lower limits
Reason: _____
- ☐ Waive hired & non-owned auto liability
Reason: Consultant is a sole proprietor and only has a personal auto policy without this coverage.

Workers Compensation Waivers

- ☐ Waive requirement for subrogation waiver endorsement if required
Reason: _____

Professional Liability Waivers

- ☐ Waive requirement for coverage
Reason: _____
- ☐ Accept lower limits
Reason: _____

Pollution Liability Waivers

- ☐ Waive requirement for coverage
Reason: _____
- ☐ Accept lower limits
Reason: _____
- ☐ Waive requirement for additional insured endorsement
Reason: _____

Other Waivers

- ☐ Describe: _____
Reason: _____

Approved by Risk Management

8/9/12
Date

Send Email



Exhibit C Waiver of Insurance Requirements

This Exhibit modifies the insurance requirements as specified in Exhibit B

Department <u>Water Agency</u>	Department Contact <u>Christine Teaford</u>	Phone <u>547-1940</u>
Contractor, Consultant, Vendor, Licensee, Tenant <u>Gwynne Cropsey dba ZunZun</u>		
Contact Person <u>Gwynne Cropsey</u>	Phone <u>831-426-0684</u>	
Contract Term <u>June 30, 2014</u>	Contract Cost <u>\$60,000</u>	Template # <u>3</u>

- If only Section I waivers are required, submit to your Department Head or designee for signature. Do not submit to Risk.
- If only Section II waivers, or a combination of Section I and II waivers, are required, submit to Risk.

Section I - Department Waivers

Requirement to be Waived and Reason

- ☐ Workers Compensation: Waive Subrogation Waiver.
- ☐ General Liability: Waive General Aggregate per location or per project; General Aggregate is at least double the Occurrence Limit.
- ☐ General Liability: Waive requirement for Subrogation Waiver because insurer will not provide the coverage.
- ☐ General Liability (Suppliers of Products): Waive "Additional Insured - Vendors". County does not distribute the product to the public.
- ☐ General Liability (Special Events): Waive Products/Completed Operations Coverage. Licensee will not sell or distribute food or other tangible items at the event.
- ☐ General Liability (Instructors/Trainers): Waive General Liability. Training is conducted at County/Entity facility and does not involve the use of hazardous equipment or participation in physical activity.
- ☐ General Liability (Therapists, Counselors, Social workers and Psychologists): Waive General Liability. All services are provided in the consultant's office or on County premises and acceptable evidence of professional liability insurance has been provided.
- ☐ Auto Liability: Waive coverage and/or limits; Consultant or Contractor does no driving on behalf of the County or the driving is limited to attendance at meetings at County/Entity facilities.
- ☐ Auto Liability (Suppliers of Products): Waive coverage because vendor's goods are delivered by common carrier or contract carrier.
- ☐ Property Insurance (Long Term Tenants): Waive Property Insurance requirement. Tenant has not made improvements to the property or the current construction cost of the improvements is less than \$25,000.
- ☐ Mold Liability: Landlord cannot obtain the insurance.

Approved by Department Head, Department Designee or Risk Management

Date _____

H-2 Waiver of Insurance Requirements (fillable form) Ver. 05/09/2011

Page 1 of 2

ACORD CERTIFICATE OF LIABILITY INSURANCE

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in the absence of such endorsement(s).

PRODUCER
PALA SIRON INSURANCE
 375 SHORELINE DRIVE, #130
 REDWOOD CITY CA 94065 UC#2254318
 srns@palasiron.com

INSURED
ZUNZUN
 (SONYWE CROPSY DBA)
 135 OLEVIEW STREET
 SANTA CRUZ, CA 95062

AGENT **SHARON M. NEEDER**
 200-880-8464 FAX 650-739-3800

INSURER A **WESTERN HERITAGE INSURANCE COMPANY**
INSURER B
INSURER C
INSURER D
INSURER E **STATE COMPENSATION INSURANCE FUND**

COVERAGES **CERTIFICATE NUMBER** **REVISION NUMBER**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED ON ANY PARTIAL, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CLASS	TYPE OF INSURANCE	INSURANCE POLICY NO.	POLICY NUMBER	POLICY EFFECTIVE DATE	POLICY EXPIRATION DATE	LIMITS
A	GENERAL LIABILITY					EACH OCCURRENCE 1,000,000 ANNUAL AGGREGATE 50,000
	COMBINED GENERAL LIABILITY					2,500
	CLAIM MADE					PERSONAL & ADV INJURY 1,000,000 GENERAL AGGREGATE 2,000,000 PRODUCTS-COMMERCIAL AGG 2,000,000
	CLAIM MADE					
	AUTOMOBILE LIABILITY					COMBINED SINGLE LIMIT BODILY INJURY (PER PERSON) BODILY INJURY (PER OCCASION) PROPERTY DAMAGE (PER OCCASION)
	ANY AUTO					
	ALL OWNED AUTOS					
	NON-OWNED AUTOS					
	LEASED AUTOS					
	ALL-OWNED AUTOS					
	EXCESS LIABILITY					EACH OCCURRENCE AGGREGATE
	EXCESS LIABILITY					
	EXCESS LIABILITY					
E	WORKERS COMPENSATION AND EMPLOYERS LIABILITY		1007005-11	08/04/2012	08/04/2013	E1. EACH ACCIDENT 1000000 E2. DISEASE 1000000 E3. DISEASE POLICY LIMIT 1000000
	ANY PROFESSIONAL SERVICE (EXCEPT PROFESSIONAL LIABILITY)					
	ANY PROFESSIONAL SERVICE (EXCEPT PROFESSIONAL LIABILITY)					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
 Certificate holder is named additional insured per attached form CO 20 25 97 04

CERTIFICATE HOLDER
 Sonoma County Water Agency
 Its officers, agents and employees
 404 Aviation Blvd
 Santa Rosa, CA 95403

CANCELLATION
 SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH POLICY PROVISIONS.
 AUTHORIZED REPRESENTATIVE
Sharon Needer

ACORD 25 (10/08/09) 1000-3000 ACORD CORPORATION, All rights reserved.

POLICY NUMBER: SCP0851050

COMMERCIAL GENERAL LIABILITY
CG 20 28 07 04

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED - DESIGNATED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	
Sonoma County Water Agency Its officers agents and employees 404 Aviation Blvd Santa Rosa CA 95403	
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

Section II - Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf:

- A. In the performance of your ongoing operations; or
- B. In connection with your premises owned by or rented to you.

CG 20 28 07 04

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INSTALLED

Page 1 of 1



AAA Northern California,
Nevada & Utah
Insurance Exchange
PO Box 22221, Oakland CA 94623-2221

Automobile Policy Declarations

Please keep with your policy.
See Important Notice on Reverse
For questions or changes call 1-800-922-8228

NAME AND ADDRESS OF INSURED
SNYDER STEPHEN GWYNNE CROSEY

135 GLENVIEW ST
SANTA CRUZ CA 95062-3457

ALTERNATE ADDRESS

OCCUPATION

ALTERNATE NUMBER

TELEPHONE NUMBER

VEHICLE(S)	YEAR	MAKE	MODEL YR.	BODY TYPE	VEHICLE IDENTIFICATION NUMBER	DRIVER(S)	NAME
05 06	2008	TOYOTA	4D SED	VAN	3VWYB81H4WM134058 5TDZK23C085172816	Drivers do not necessarily correspond to principally operated vehicles.	STEPHEN GWYNNE

COVERAGES/PREMIUMS	COVERAGE	SAFETY LIMITS		ITEM 05 DEDUCTIBLE	ITEM 05 PREMIUM	ITEM 06 DEDUCTIBLE	ITEM 06 PREMIUM	ITEM DEDUCTIBLE	ITEM PREMIUM
		EACH PERSON	EACH OCCURRENCE						
	Bodily Injury	500,000	1,000,000		\$111		\$140		
	Medical Payments	25,000			\$79		\$115		
	Uninsured Motorists	500,000	500,000		\$57		\$94		
	Property Damage		50,000		\$91		\$115		
	Comprehensive			100	\$77	100	\$87		
	Collision			250	\$181	250	\$285		
	All Risks			No Coverage		No Coverage			
	TOTAL PREMIUM PER VEHICLE				\$595		\$840		

Automobile Death Benefits	EXPLANATION OF LIMIT CODES	A=\$15,000 first named insured. B=\$15,000 each first named insured and spouse. C=\$15,000 each additional named insured shown on endorsement F225.	LIMIT CODE	PREMIUM
	CA Surcharge:	\$0.00	B	\$0

Premium Summary
THIS IS NOT A BILL

Annual Premium: \$1,444.00

SCHEDULE OF CHANGES

DISCOUNTS/MESSAGES	ITEM 05 06	RATED DRIVER	DOB	YOE	BORN ANY L.C.	FUTURE ANY MILES	GARAGE ZIP	VEHICLE USAGE	GENDER	MARITAL	SEE REVERSE FOR EXPLANATION OF CODES
	05 06	GWYNNE STEPHEN	0 0	24 32	5,000 21,000	5,000 21,000	95062 95062	Principal Principal	F M	M M	

Enhanced Transportation Expense Coverage: Item's 05, 06.
DISCOUNTS: Mar Dvr: None Multi-policy HO3 Homeowners: Item's 05 06
Multi Car: Item's 05 06 Good Driver: Item's 05 06

LOSS PAYEE(S)	ITEM 05 06	TOYOTA MOTOR CREDIT PO BOX 3025 CORAPOLIS 15108	PA	ITEM 04
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95 1512 CA 10012010



California Project WET (Water Education for Teachers)

The California Project WET program and our sponsors are eager to assist in supporting local professional development and water education outreach efforts. California Project WET works with water agencies, water research scientists, professors of teacher education, school professional development coordinators, after school program directors and California Department of Education environmental education coordinators to meet the demand for high quality professional development opportunities tailored to specific or broad range audiences throughout the state.

Our workshops maximize the time engaged in hands-on activities, help educators become familiar with teacher designed features of the guide and provide opportunities to bounce implementation ideas around with fellow educators. Every Project WET activity was created by teachers for teachers and each incorporates nationally recognized education principles and practices. Project WET activities incorporate low cost materials and provide step-by-step instructions making the activities very popular with California educators of all levels of teaching experience. Project WET activities are correlated to Common Core State and Next Generation Science Standards, as well as California Education & the Environment Initiative (EEI) units.



Unlike any other water education program, Project WET is at home in the classroom as well as the afterschool program, college methods course or in teacher professional development workshops. Project WET activities are designed to easily integrate knowledge of local water resources and our educator professional development workshops can be specifically tailored to highlight local water issues including: ***non-point source pollution, storm water run-off, water conservation, water treatment and watershed management.***

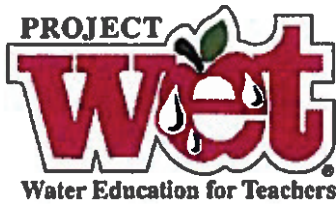
California Project WET also offers content-specific Project WET workshops. In partnership with the US Geological Survey, Project WET offers and can design workshops highlighting the role of science in studying subjects ranging from groundwater issues in the Coachella Valley to water issues in the Sacramento-San Joaquin Delta. California Project WET also partners with other environmental education and state programs to conduct multi-day environmental education conferences for college & university professors, interstate water education workshops, tribal water education events and community water education festivals.



WATER EDUCATION
FOUNDATION

California Project WET is a program of the non-profit Water Education Foundation and is funded by grants from the U.S. Geological Survey- California Water Science Center, the California Department of Water Resources and local water and education programs..

If you would like to host a Project WET workshop or if you would like more information on Project WET please contact Brian Brown, California Project WET Coordinator at: projectwet@watereducation.org or (916) 444-6240.



What do California educators have to say about Project W.E.T.?

"Students approach the subjects of water quality and conservation through games and unexpected events . They remember these activities and can recall the content. I teach the same students each year as they move through 1st through 5th grade, and they can recall from years earlier what we did and why."

– *Elementary Grades (1st – 5th) Science Teacher, Livermore*

"The [Project WET] activities have helped my students by making concepts less abstract and more concrete through hands-on activities. This is especially true for my English Language Learners and my special needs students." – *4th Grade Teacher, Willows*

"I use Project WET with all 125 4th grade students when I talk about California's different Biomes. I also use Project WET with the History of California's agriculture. I love that it allows kids to experience first-hand what I am trying to teach them." - *4th Grade Teacher, Turlock Unified School District, Turlock*

"They activities are hands on, and they engage all learners regardless of if they're native English speakers." – *5th Grade Teacher, Alum Rock Union School District, San Jose*

"We are switching to Common Core, so I Project WET to meet many of the standards. Seeing, experiencing, and discovering the concepts through the activities leads to the "aha" moment much more productively than the reading and review." - *Middle School Engineering, STEM Teacher, Pacific Charters Inc., Sacramento*

"The interactive simulations and interdisciplinary structure of the Project WET activities greatly help our students remain focused in the activities and better understand the concepts."

– *9-12 Science Teacher, Bakersfield*

"Project WET provides me with a wide variety of activities that I am able to either use directly or modify for Advanced Placement students. Students have difficulty understanding what a watershed is so I used the watershed related activities to clarify their understanding."

- *11th – 12th Grade, A.P. Environmental Science Teacher, San Juan Unified School District, Carmichael*

"We use Project WET for its fun an interactive activities that disguise learning. We like to encourage the academic portion of all the activities. Science would be the most that we receive from Project WET. Due to the activities being so interactive it allows the students to have fun while they are learning and it helps them retain the information that they receive." - *Program Director, Give Every Child A Chance, Manteca*

"The Personal Water Meters provided meaningful understanding of how much water gets used/wasted on a daily to weekly basis. Some students continued to use them for several weeks after we finished the unit, and some parents even commented that water use/waste has been a topic of discussion at home with my students." – *3rd Grade Teacher, Bakersfield*

'My students were able to understand & recognize how valuable our watersheds are and why there's a sense of urgency to help conserve water and address water quality. Most of my student's science fair project activities target some form of water conservation, water testing and ecosystem restoration.'

– *6th Grade Teacher, Sacramento*



MWD OC Water Education School Programs

2019-20 Price Breakdown

Request for Commitments: May 6

Deadline to Submit: May 24

PROGRAM BREAKDOWN:

Elementary School (K-2)

Shows That Teach: \$875.50 per presentation*

"H2O, Where Did You Go?" is a fun, educational, and interactive assembly-style program that engages students in water science topics such as the water cycle, water supply, and conservation, by using music, humor, and audience participation.

Elementary School (3-6)

Discovery Cube of OC: \$4.87 per student

By offering an innovative approach to water education, students are presented grade-specific assemblies on local climate, water resources, and ways to be water efficient. Students are tested on their water knowledge with a keypad device before an assembly program begins and at the conclusion of the program to gauge concept retention.

Middle School (7-8)

Discovery Cube of OC: \$13.21 per student

Optional Conservation Kit: \$14.70 per kit

The middle school program includes a hands-on water quality workshop in a classroom setting. Through these workshops, students understand how common practices of individuals and families have an impact on the quality of our surface waters as well as the importance of maintaining a healthy water supply for Orange County residents.

High School (9-12)

Bolsa Chica Conservancy: \$4,120 per school

"Windows to Our Wetlands" (WOW) offers hands-on, science-based learning stations and activities that make science fun, interactive, and memorable. On the 1st visit, students learn about watersheds, California water supply and resources as well as what it takes for purveyors of their drinking water to get it to their homes – clean, healthy, and ready to use from the tap. On the 2nd visit, the Conservancy will bring the WOW mobile learning center to the school for a water quality lab comparison. Finally, on the 3rd visit, students will present their findings through an in-class presentation.

ADDITIONAL ITEMS:

* The Shows That Teach price per presentation may vary depending on group size. "H2O, Where Did You Go?" features two performers and is presented to 400 students maximum. In cases where a school's auditorium or multi-purpose room cannot accommodate larger groups, "Waterology" will be presented. "Waterology" features one performer at a cost of \$669.50 for one presentation or \$875.50 for two presentations.



160 Alamo Plaza, Unit 177
Alamo, CA 94507

800.292.9054
hello@tinkerprograms.com
tinkerprograms.com



PROGRAM DESCRIPTION

High School Water Education Program
Fall 2019 School Year

Prepared for:
Golden State Water Company

Date
August 9, 2019

FIRST
THANK YOU
FOR CONSIDERING US!

Dear Matt,

We wanted to take a moment to express our appreciation and gratitude for the opportunity to submit this description of our Water Education Program. We recognize the importance of providing customers with the education and assistance necessary to make choices that will result in responsible long-term water and energy use.

We are very enthusiastic about the opportunity to support Golden State Water as you consider providing high school students and their parents with an effective water education program. We hope you are delighted with our digitally based model and find it as exceptional as we do!

Again, thank you for your time reviewing our program.

Cheers,

Joe Thrasher
President

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EDUCATOR

ENDORSED

"Educators desire efficient and effective programs that support the implementation of core curriculum and enhance the delivery of instruction by engaging students in relevant and meaningful ways. Tinker has achieved this by creating self-contained, innovative lessons aligned to Common Core and Next Generation Science standards infused with the appropriate amount of digital content and technology."

Lacrisha Ferriera

Asst. Superintendent of Curriculum

1 | EXECUTIVE SUMMARY

For many water utilities, a Water Education Program is an essential element of their efficiency plan. The program is typically designed to educate future rate payers (students) and current rate payers (their teachers and parents) about water use and efficiency. To support the utilities water education efforts we propose Tinker's digital, science-based, completely turnkey education program. The program features a high school curriculum that is designed to teach students about water and how to use it responsibly.

At Tinker, our mission is to contribute to a sustainable environment by providing our youth with the tools to build a foundation for a lifetime of responsible water and energy use. We achieve this through a technology rich educational curriculum delivered directly to classroom teachers.

Designed as a turnkey program, we provide all materials and services needed to successfully implement the program in the schools you serve. We strategically market to local schools under the utilities banner thus becoming an extension of you. This design allows you to choose your level of involvement while reaping all of the social benefits of providing education in schools you serve. Here are the program highlights:



End to End PROGRAM SERVICES

- Complete program management
- Customization of all participant resources
- Identification and recruitment of local teachers
- Real-time tracking & reporting of all program actions
- Soliciting participant feedback
- Final report



Engaging CURRICULUM

- Access to our state of the art Web App
- On-demand Teacher training
- Contest and grant programs
- Independent resources for students and parents
- Relevant lessons supporting Education Standards
- Lesson & program assessments



Real-time REPORTING

All program actions and interactions are digitally recorded in real-time ensuring teachers are implementing the program in the classroom. Real-time data is made available through our online client dashboard.



Water KNOWLEDGE

On the average, students participating in our programs during the 2017-2018 school year answered 5.52 out of 12 questions correctly in the baseline assessment. After participating, the average student correctly answered 5.16 more questions over the baseline. An increase of 94% in water and energy knowledge!



REACHING STUDENTS

"I have participated in water efficiency programs with my class in the past and this year has been the most successful. I truly believe this is because of the addition of interactive activities provided for the students in the workbook as well as the virtual lab in Lesson 2. My class loved exploring more about water efficiency using the QR Codes with our iPads. Simply varying the presentation of information to kids can make a world of a difference."

Jillian Potenza
Teacher

2 | PROGRAM DESCRIPTION

Tinker's Water Education Program is a digital science-based curriculum designed to teach high school school students about water and energy efficiency. The curriculum is particularly engaging for this generation of student because it is fun, easy to use and can demonstrate concepts in ways print curriculum cannot.

Delivered by the classroom teacher, the curriculum fits seamlessly within the current classroom setting. Materials are aligned to support federal and state education standards, feature engaging digital content, and hands-on activities.

Using resources from our on-line platform, or Web App, the teacher accesses an on-demand lesson training module. Armed with the information learned from the training, the teacher delivers the curriculum through five to eight unique classroom lessons. Each lesson includes resources such as streaming video content, on-line assessments, virtual labs and more.

To support classroom activities, the Web App includes on-line portals designed specifically for students and parents. Each portal disseminates relevant information to the user and offers the utilities additional engagement opportunities. This only furthers the program's ability to effect change.

During the final lesson, "At Home", the student completes homework exercises that include:

- developing a pledge to make small changes to the way they use water, consume energy and dispose of waste.
- writing a letter to parents encouraging them to support sustainability in the community

These give families the opportunity to immediately adopt sustainability practices in their home.

LEARNING TECHNOLOGY

Our digital platform gives students, teachers and parents the opportunity to explore water and energy concepts in ways that are impossible in print. This engaging educational philosophy successfully shapes student's long-term water and energy use behaviors.



OUR TEAM

KATIE THRASHER

CO-FOUNDER

Katie brings fourteen years of experience as an educator to serve a multitude of roles at Tinker. A credentialed teacher in the State of California, Katie spent several years as an elementary school teacher. Prior to co-founding Tinker, she served as a consultant contributing to the educational design of utility-provided Water Education Programs. She is responsible for Tinker's long-term education vision and strategic plan.

JOE THRASHER

CO-FOUNDER

Joe Thrasher serves as Tinker's President. With over seventeen years of experience in designing and implementing Water Education Programs, Joe is an expert in the efficiency education space. As one of the company founders, Joe is responsible for the overall design and implementation of Tinker's efficiency programs.

MIKE HENRY

CIO

Mike is Tinker's chief software architect and serves as Tinker's CIO. He has twenty years of experience, having participated in a wide range of software endeavors spanning from flagship and commercial products to mission critical internal applications. Mike drives all things related to Tinker's web app and back end databases.

HEATHER DEVANY

DIRECTOR OF EDUCATION

Heather Devany serves as our Director of Education. She oversees the creation and development of Tinker's education content and delivery. Mrs. Devany has spent nineteen years in education. Three years as an administrator and fourteen years as a classroom teacher. She has taught 2nd, 3rd, 5th and 6th grade and has twice been a member of the California Distinguished School writing committee.

DAN NATIVIDAD

DIRECTOR OF MARKETING

Dan Natividad serves as our Director of Marketing. He oversees the outreach and marketing of the program to schools and teachers. His marketing campaigns utilize a wide range of marketing tactics such as grass-roots social campaigns, traditional media, and digital marketing. Dan has spent sixteen years implementing strategic marketing plans for organizations.

3 | PROGRAM OPERATION

The successful administration of the Water Education Program is guided by Tinker's proven operational plan. The program operates in three distinct phases:



PHASE 1: LAUNCH

The foundation of the Water Education Program.

Program launch includes outreach and implementation planning as well as customization and production of outreach, curriculum and materials.



PHASE 2: IMPLEMENTATION

Stakeholder objectives merge to achieve desired outcomes.

Implementation includes teacher outreach and enrollment, and the shipment of print materials.



PHASE 3: ASSESSMENT & REPORTING

Data is collected, measured and assessed to determine outcomes.

Assessment and reporting includes collection of programmatic data through various mediums used to calculate and report accurate program outcomes.

PROGRAM DEVELOPMENT

We design amazing programs giving students the creative license to explore water and energy efficiency while forging an unforgettable experience and delivering lasting results for you.

3.1 PROGRAM TIMELINE

Complete program management

FALL, 2019

Purchase order issued

PHASE 1: LAUNCH

3 WEEKS

- Outreach & recruitment planning
- Contests and grant programs developed
- Branding information provided by the utilities
- Print & digital materials developed and published
- Quality control checks performed on all materials

PHASE 2: IMPLEMENTATION

6 TO 12 WEEKS

- Teacher & schools introduced to the program
- Participation commitments collected
- Access to digital materials granted
- Print materials shipped
- Contact with teachers to confirm delivery
- Periodic contact with teachers based on implementation progress
- Collection of all assessments & surveys
- Evaluation of data collected
- Qualifying students and teachers awarded incentives

PHASE 3: EVALUATION & REPORTING

DECEMBER, 2019

- Program closed to participation
- Program data compiled and analyzed
- Final report developed and delivered

3.2 OUTREACH & RECRUITMENT

Putting our marketing skills to work

Using our proven marketing strategy, Tinker will recruit schools and teachers for participation. Our strategy includes:

- **Identification.** We identify the schools that are served by each utility
- **Targeting.** We recruit each teacher individually from approved schools
- **Data Mining.** We collect all data related to our targeted teacher. This includes phone, e-mail address, bell schedule, prep period etc...
- **Careful Timing:** Conducting outreach activities on a day and during a specific time in which teachers will typically respond
- **Unique Messaging.** Our message is designed specifically for teachers. This includes:
 - **Education Standards.** Emphasizing education standards supported by the program
 - **Social Acceptance.** Including information about participating colleagues
 - **Language.** Incorporating words/terms uniquely used by educators
- **Referral Program.** For teachers who encourage their colleagues to participate
- **Various Channels.** We conduct outreach through various channels such as; digital (e-mail & web), telephone, and U.S. Mail

3.3 CONTEST AND GRANT PROGRAMS

Rewarding those that exceed the norm

A fun component of the Water Education Program are the various contests and grants available to participating teachers, students and their families. These include:

STUDENTS

Video Contest: Students can create a short 2 to 3 minute video about water and energy efficiency for a chance to win an iPad mini. Videos can be uploaded through the Tinker web app.

TEACHERS

Through the program teachers are afforded the opportunity to earn a \$50 mini grant for classroom materials. To earn the mini grant 75% of the teacher's students must complete the on-line questionnaire.

3.4 EDUCATIONAL MATERIALS

What we do best

The Water Education Program is designed to be delivered and taught by the classroom teacher. Teachers receive a complete set of program materials to facilitate and support instruction to students. A variety of expertly developed materials educate about water and energy efficiency and encourage responsible water and energy use while supplementing the science and math curriculum already taught in the classroom. Most materials are delivered digitally through an online Web App providing convenient and instant access by making materials available with just a few simple steps.

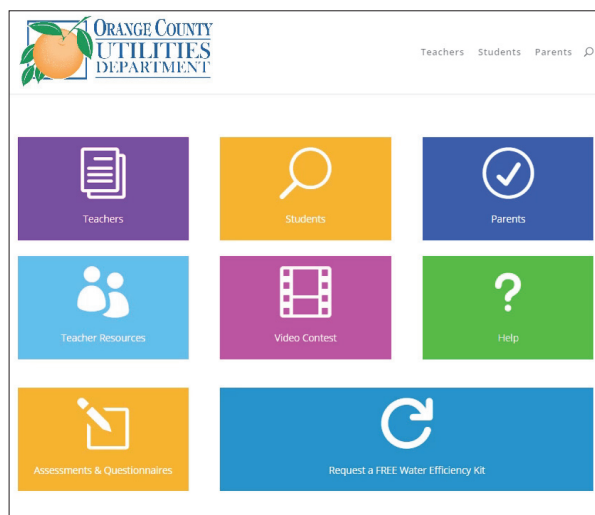
WEB APP

Educators across the country have identified the need for "...integration of technology in education to increase the effectiveness of education infrastructure, train students of varying abilities and backgrounds and prepare a workforce possessing skills meeting and exceeding those required in today's global marketplace."

"Many parents talked to me after the lessons and said their kids would come home asking questions about their energy and water bill. They were shocked at how and why they were even curious."

Kevin Wendorff
Teacher

While supporting this need we have found digitally delivered water and energy efficiency curriculum to be particularly engaging because it is fun, easy to use and can demonstrate

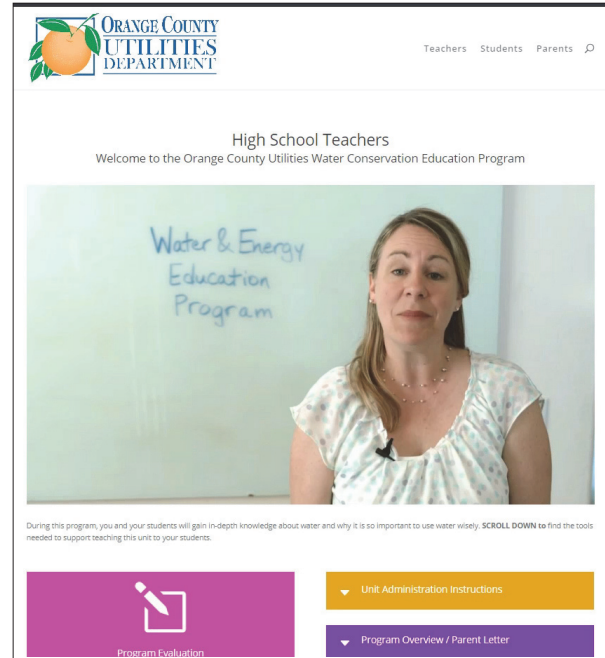


TINKER WEB APP HOME PAGE

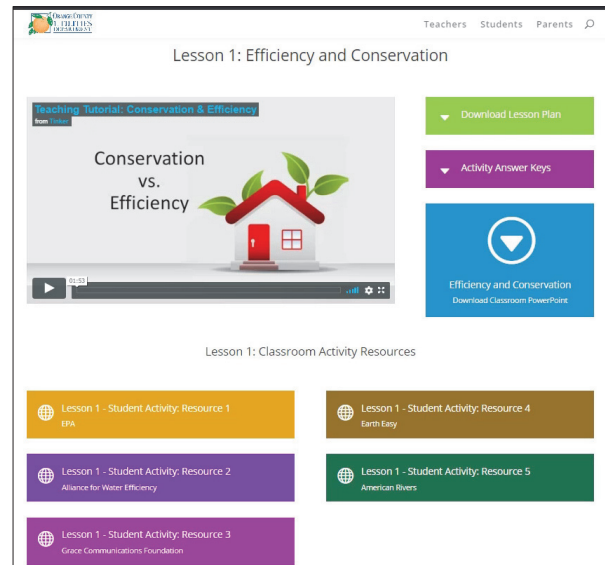
water and energy efficiency concepts in ways print curriculum cannot. Using technology allows students to explore beyond the standard curriculum, giving them a platform to ask additional questions as they arise. For the utility we increase engagement opportunities furthering the program's ability to effect change. Our Web App clearly organizes and disseminates materials in three distinct portals; Teacher Portal, Student Portal, and Parent Portal.

Teacher portal. The teacher portal is designed in a clearly structured usable format, making implementation easy for new, as well as, veteran teachers. The teacher portal includes:

- **Unit Plan.** Resource for teachers to plan.
- **Teacher Tutorials.** On-demand training content to guide teachers through the program.
- **Documents.** Digital repository to view or print program materials.
- **Evaluation.** Teacher Program Evaluation.
- **Frequently Asked Questions (FAQs).** FAQs for teachers.
- **Classroom Lessons.** Each classroom lesson comes complete with:
 - o Classroom teaching resources
 - o Streaming video content
 - o Teacher demonstration activity
 - o Hands-on student classroom activity
 - o Vocabulary activity
 - o Student assessment
 - o Education standards supported within the lesson



TEACHER PORTAL

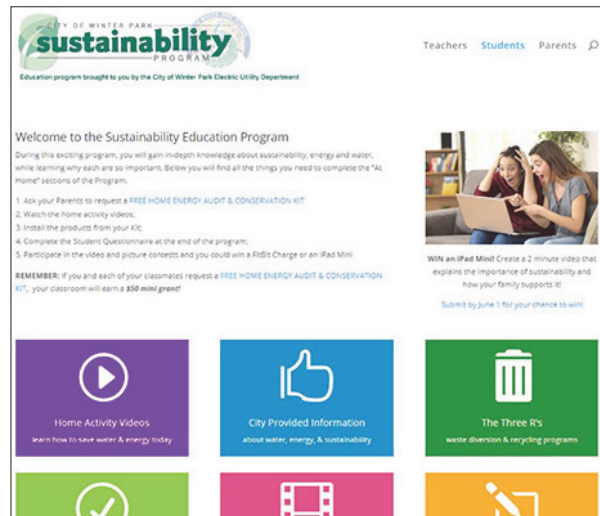
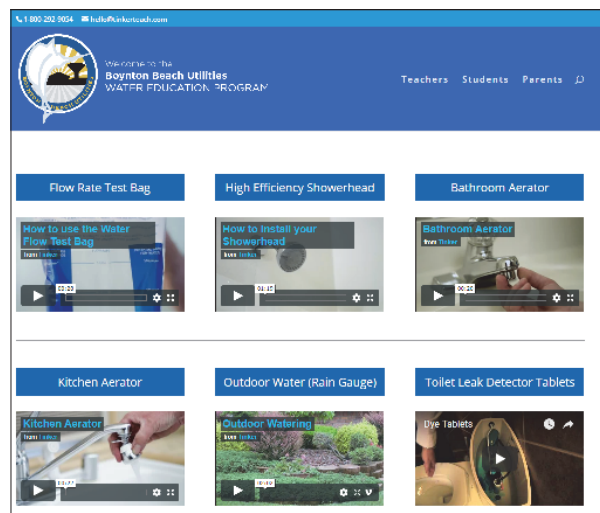


CLASSROOM TEACHING RESOURCES

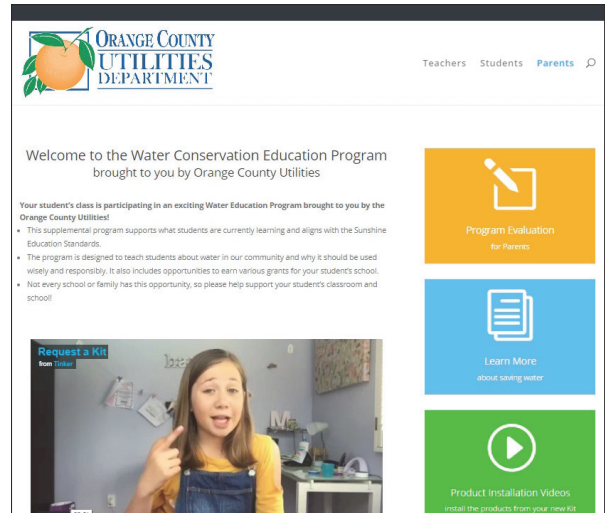
PROGRAM OPERATION

Student portal. The student portal is designed to support the lessons taught in the classroom. The student portal includes:

- **Checklist.** Step by step checklist to complete the homework associated with the “At Home” lesson.
- **Online video.** Access to online video content that demonstrates way to conserve at home.
- **Student Questionnaire.** Access to the Student Questionnaire required to be completed at the close of the program.
- **Video Contest.** Ability to register and submit the student developed video for the video contest.
- **Additional Water and Energy Efficiency Program Integration.** Information and access to any other programs promoted by both utilities.

**STUDENT PORTAL**
STUDENT QUESTIONNAIRE**ONLINE VIDEOS**

Parent portal. The Parent Portal provides relevant materials for families of students participating in the program. It can be hosted in multiple languages, contains custom adult education content, parent feedback forms, redirects to utility web pages and can include streaming content from the utility website. It is built to match content and messaging from the utility. The parent portal includes:



PARENT PORTAL

- **Multiple Languages.** The parent portal is published in multiple languages.
- **Program Evaluation.** Parent Program Evaluation.
- **Online video.** Access to online video content that demonstrates way to conserve at home.
- **Learn More.** Link to additional water and energy efficiency tips or programs.
- **Test Your Knowledge.** Quiz for parents to test their knowledge of water and energy efficiency.

PROGRAM OPERATION**PRINT MATERIALS**

To support the digital materials provided teachers and students are provided a set of printed material. Print materials are delivered directly to the classroom and include:

- **Teacher Edition Program Guide.** One for each teacher. The Teacher Guide provides teachers with:
 - Step by step guide to completing the program
 - Direction to access the web app
 - Print copies of the online activities.
- **Teacher Lesson Kit.** This contains all the resources needed to complete the classroom activities.
- **Classroom set of letters to parents.** Provided in multiple languages this letter explains the program and encourages parents to become active participants in their child's education.
- **Classroom set of student workbooks.** Used to support classroom lessons. The book contains pages to support the various classroom activities.
- **Pledge Templates.** At the conclusion of the program students write a letter to their parents pledging to make changes in water and energy use habits based on what they learned in the classroom. The pledge is signed by the parent(s) and serves as the guide for changing water and energy use behavior at home.



3.5 ASSESSMENTS

Measuring what students have learned

During the Water Education Program, assessments are administered at various points to measure learning for each student. A baseline assessment is administered at the beginning of the program, a lesson assessment is administered at the close of each lesson and a full program assessment is administered at the conclusion of the program. Using data collected during these assessments, we can estimate the growth in the water and energy efficiency knowledge amongst participating students.

The table below contains our estimate of knowledge growth within water and energy efficiency topics for participating students. This estimation was based on data collected from students during the 2017-2018 school year.

PRE-ASSESSMENT



ON THE AVERAGE STUDENTS CORRECTLY ANSWERED 5.52 OUT OF 12 QUESTIONS IN THE BASELINE STUDENT ASSESSMENT **PRIOR** TO BEGINNING THE PROGRAM

POST-ASSESSMENT



ON THE AVERAGE STUDENTS CORRECTLY ANSWERED 10.68 OUT OF 12 QUESTIONS IN THE POST STUDENT ASSESSMENT **AFTER** COMPLETING THE PROGRAM

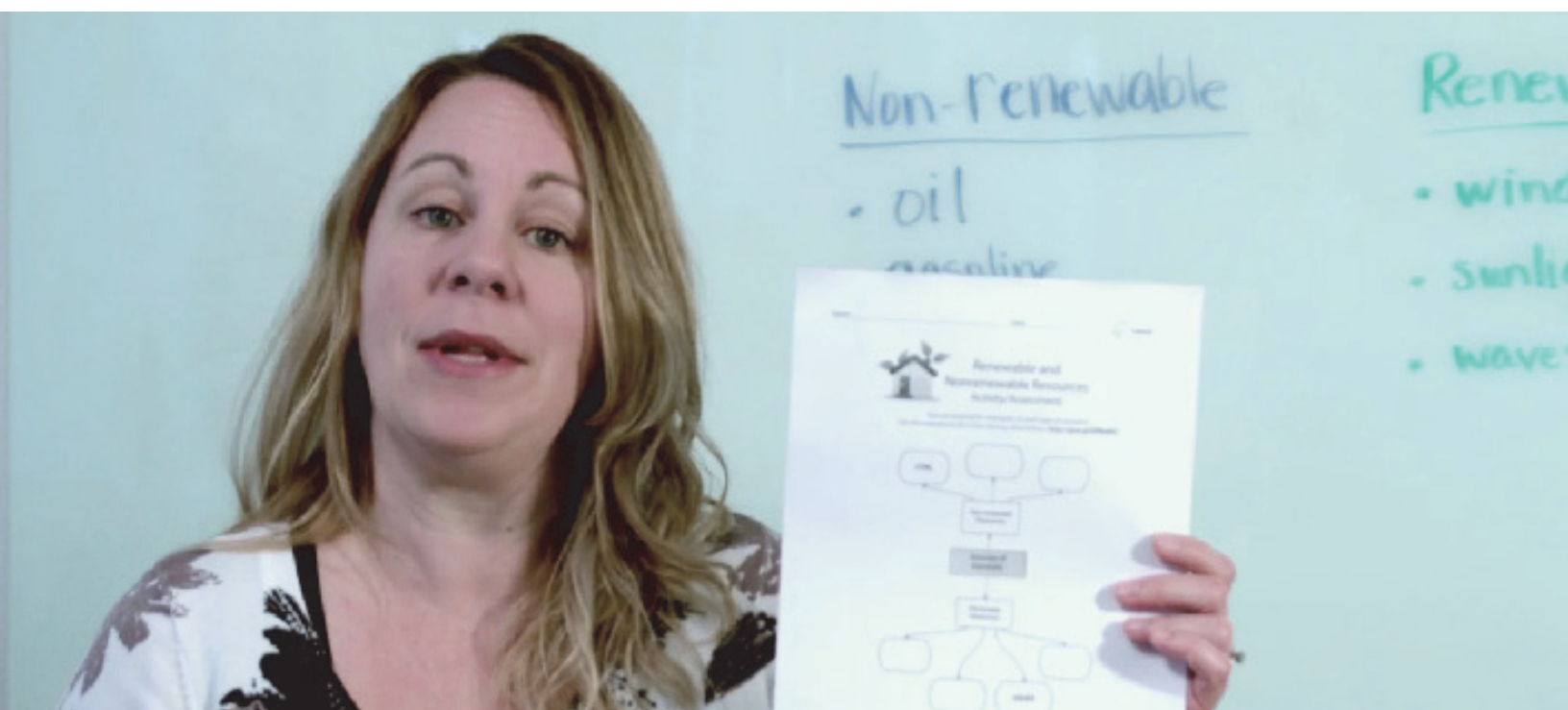
94% 

AFTER PARTICIPATING IN THE PROGRAM, STUDENTS INCREASED THEIR WATER AND ENERGY KNOWLEDGE BY CORRECTLY ANSWERING 5.16 MORE QUESTIONS OVER THE BASELINE. DEMONSTRATING A 94% INCREASE IN WATER AND ENERGY KNOWLEDGE

3.6 PROGRAM DELIVERY

Delivering the program to maximize impact

Our Water Education Program is designed to be delivered and taught by the classroom teacher. All resources needed to complete program are provided including on-demand teacher training. The majority of materials are delivered online which provides convenient and instant access making materials available with just a few simple steps. This increases engagement opportunities furthering the programs ability to affect change.



When committing to deliver the program, teachers indicate the number of participating students and the date in which they expect to begin. Next, we verify school eligibility and upon confirmation the delivery process begins.

1. A classroom set of materials are appropriately packaged for shipping. This includes clearly labeling each carton with the teacher's name and room number. Materials are described in Section 3.4.
2. Delivery of the materials is scheduled to arrive two weeks prior to the date teachers indicated they'd like to start the program. This gives teachers the opportunity to substantially review the content prior to beginning.

3. Upon receipt, the curriculum is administered by the teacher. The program material is designed to integrate and supplement the science and math curriculum already taught in the classroom while supporting federal and state education standards. Teachers are the ideal choice to deliver the program because they:
- are highly qualified to deliver program content
 - know their students' learning style (e.g., visual, auditory or kinesthetic) and can adapt the program content to successfully reach each student
 - possess a fundamental understanding of basic program content because grade level education standards dictate that teachers must incorporate similar content into their own lesson plans



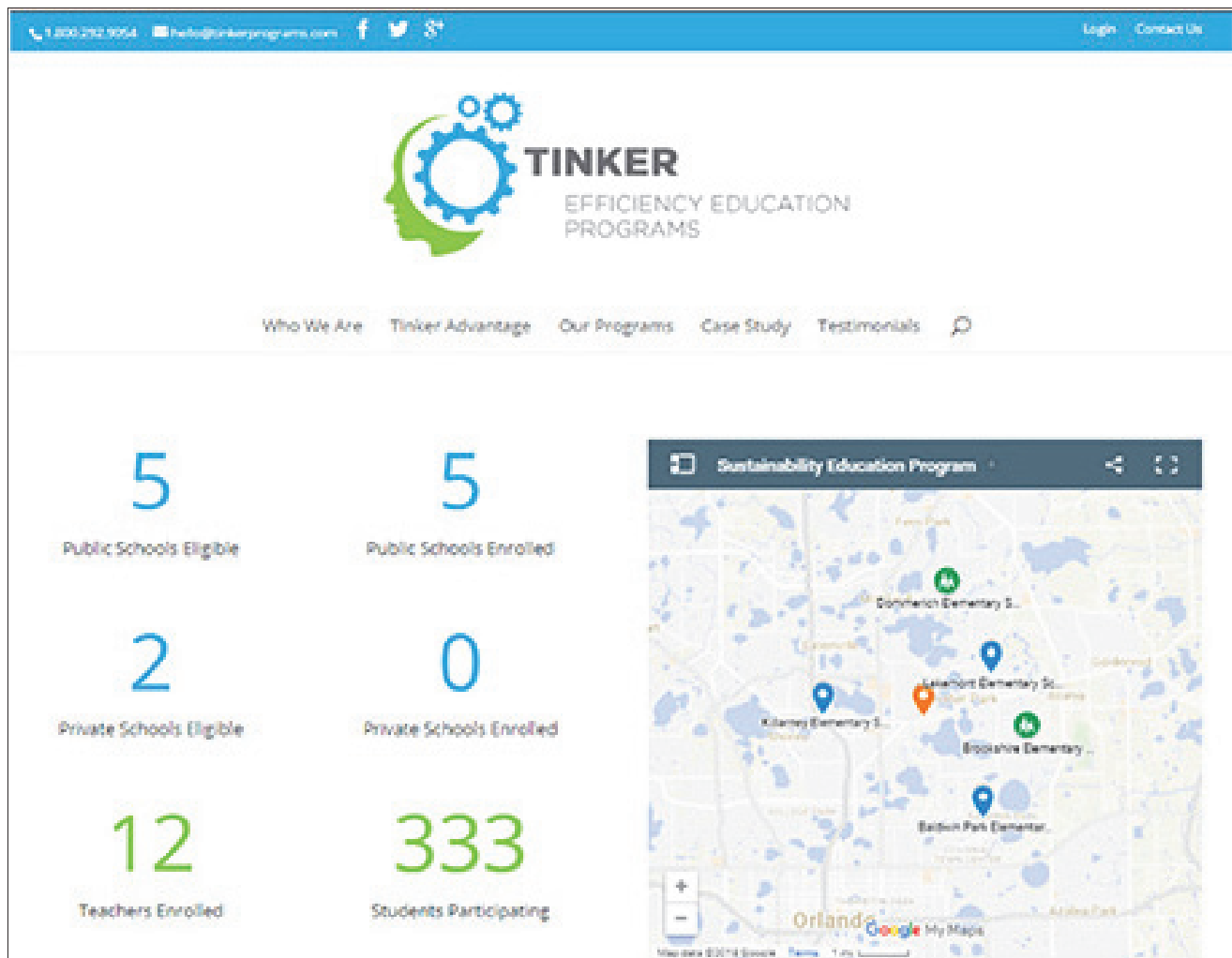
Once the initial classroom lessons are completed, participating teachers are sent monthly e-mails with new lessons that incorporate water and energy efficiency topics but align to education standards in subjects outside of science and math. This will help keep water and energy efficiency in the forefront of the students learning experience. This simple yet subtle resource will increase persistence and create an already engaged teacher base for each utility to utilize whenever school-based education is used.

3.7 PROGRAM TRACKING

Program actions collected in real-time

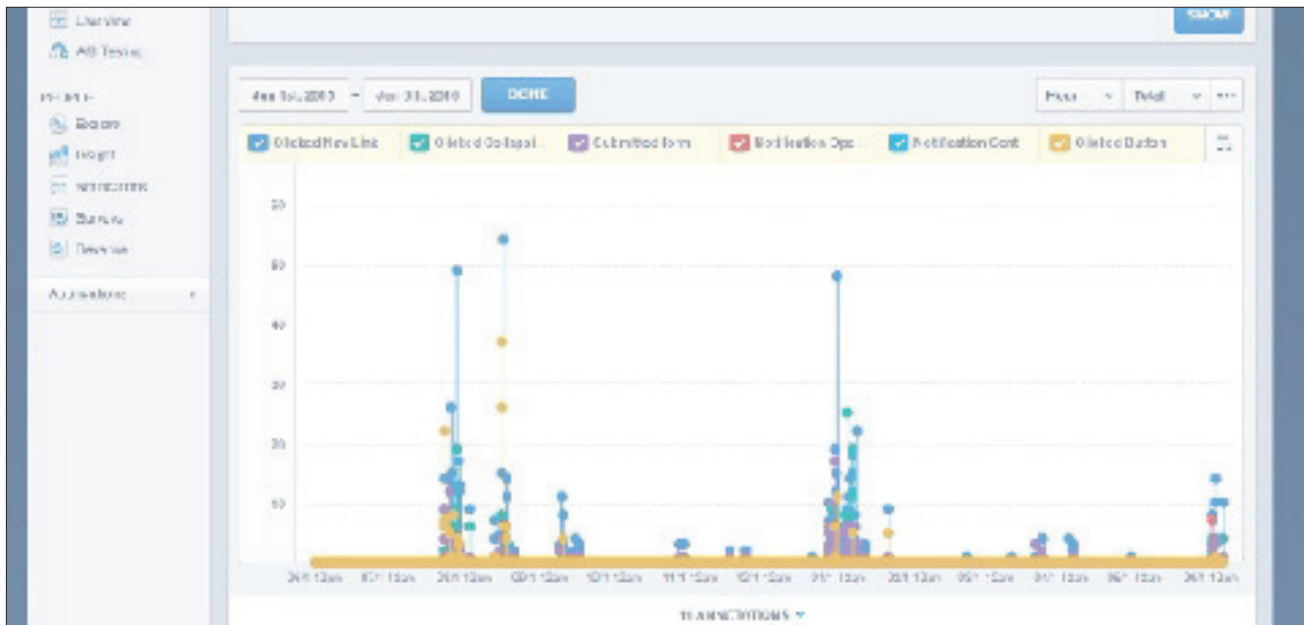
To accurately track all program actions, we employ a state-of-the-art tracking system. All program actions and interactions are digitally recorded in real-time. This includes outreach activities such as:

- How many times an eligible school has been contacted
- Schools enrolled
- Schools currently implementing
- Schools that have completed the program
- Pipeline of enrolled schools



Because our solution is delivered via Web App we use advanced analytics software to capture all participant interaction within the Web App with absolute certainty. Actions are reported in real-time and are analyzed to provide insights into program activities. This includes:

- Time and frequency a teacher delivers lesson
- Level of parent participation by classroom
- Leads generated in other residential programs*
- Teachers that are implementing the program
- Lessons that are used most frequently
- Length of time spent in the Web App
- Those teachers that are not active within the Web App



Analysis of the data allows for:

- Targeted follow-up of low performing schools, ensuring goals are met.
- Proactive participant engagement based on actions.
- Warm leads for additional residential programs.

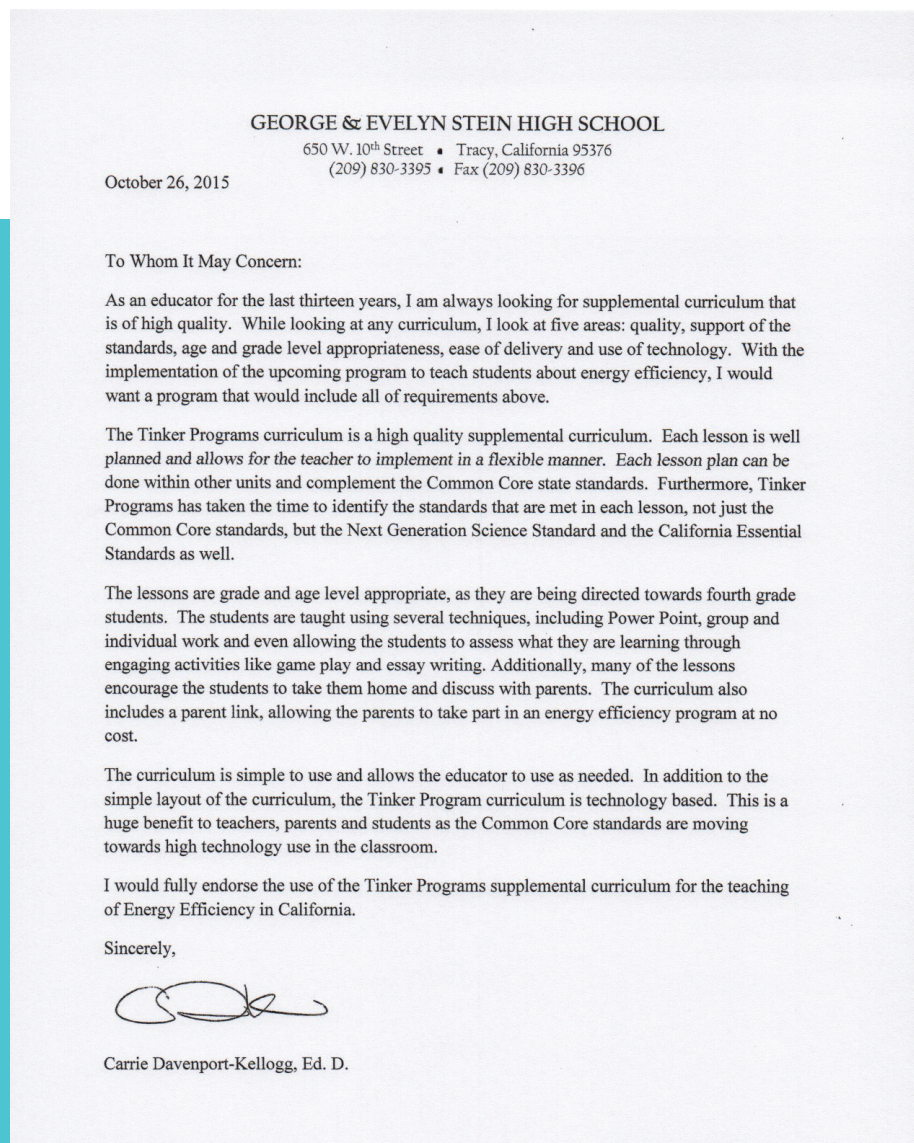
* Optional no-cost item

3.8 PARTICIPANT FEEDBACK

Engaging stakeholders

Upon the conclusion of the program, teachers, students and parents are asked to complete an evaluation of the program. Evaluations are submitted via the Web App. The information gathered is carefully reviewed and used to improve the program year over year.

In addition to evaluations, participant letters are encouraged. Letters come from teachers, students and parents. Below you will find a letter from a teacher who previously participated in a traditional Water Education Program then participated in a Tinker Program.



4 | PROGRAM BUDGET

END TO END PROGRAM SERVICES: \$199.99 PER CLASSROOM

cludes:

- Customization of Tinker's Web App
 - Utility branding
 - Linking to specific utility information
 - Lesson customization (all lessons support education standards)
 - Mirror messaging from other outreach programs
 - Lesson customization (all lessons support education standards)
 - Typical water lessons include:
 1. Efficiency & Conservation
 2. Groundwater & Surface Water
 3. Drought
 4. Water & Energy Nexus
 5. Non-point Source Pollution
 6. The Four "R's"
 7. Water Conservation at Home
- Access to the Web App for teachers, students & parents
- Identification and enrollment of schools and teachers
- Distribution of materials
- Classroom implementation tracking
- Customer service for teachers, students and parents
- Regular reporting of program progress
- Program assessment and final reporting including projected savings

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PRINTED PROGRAM MATERIALS, CONTESTS & GRANTS: \$5.99 PER STUDENT

These are materials mailed to the classroom

1. Teacher Folder containing:
 - Teacher Guide (one per teacher)
 - Postage Paid Return Envelope (for letters from students etc..)
2. Student Workbook (one per student)
3. Home audit tools (one per student)
 - Water Flow Rate Test Bag
 - Toilet Leak Detector Tablets
 - Water Temperature Check Card
4. Contests & Grants. Designed to encourage maximum participation in the program.

Student contests

Video Contest: Students submit a two minute video about what they learned and how it is helping to conserve water at home.

Prize: iPad Mini

Teacher mini grants

Ensures teachers encourage students to complete all of the online assessments and the student survey. Mini grants are \$50 used for classroom supplies

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5 | CLIENT REFERENCES

We are pleased to offer the following client references. Our staff has decades of experience developing and delivering energy and Water Education Programs. You can be certain Tinker LLC has the project experience to successfully support YOUR Water Education Program. We urge the evaluation team to contact our client references to review our performance for them.

Orange County Utilities (FL)

Contact: Jessica Green

Phone: 407-254- 9846

E-mail: jessica.green@ocfl.net

City of Boynton Beach Utilities (2019)

Contact: Rebecca Harvey

Phone: 561-742-6494

E-mail: HarveyR@bbfl.us

City of Clearwater Public Utilities (2019)

Contact: Jerry Wells

Phone: 727-562-4960 ext. 7226

E-mail: jerrywells@myclearwater.com

October 8, 2019

Ronald K. Moore
 Senior Regulatory Analyst
 Golden State Water Company
 630 East Foothill Blvd.
 San Dimas, CA 91773

Dear Mr. Moore,

The Commission has approved Golden State Water Company's Advice Letter No. 1791-A, (Supplement to Advice Letter No. 1791), filed on October 7, 2019, regarding the Conservation Expenses One-Way Balancing Account 2016 – Disposition.

Enclosed are copies of the following revised tariff sheets for the utility's files:

P.U.C.	
Sheet No.	Title of Sheet
8460-W	Schedule No. CL-1-, Clearlake Customer Service Area General Metered Service, Page 3
8461-W	Schedule No. LO-1-NR, Los Osos Customer Service Area Non-Residential Metered Service, Page 4
8462-W	Schedule No. LO-1-R, Los Osos Customer Service Area Residential Metered Service, Page 3
8463-W	Schedule No. LO-RCW, Los Osos Customer Service Area Non-Residential Recycled Water Service, Page 3
8464-W	Schedule No. ME-1-NR, Metropolitan Customer Service Area Non-Residential Metered Service, Page 5
8465-W	Schedule No. ME-1-R, Metropolitan Customer Service Area Residential Metered Service, Page 3
8466-W	Schedule No. ME-3, Metropolitan Customer Service Area Reclaimed Water Service, Page 3
8467-W	Schedule No. R3-1-NR, Region 3 Customer Service Areas Non-Residential Metered Service, Page 4
8468-W	Schedule No. R3-1-R, Region 3 Customer Service Areas Residential Metered Service, Page 3
8469-W	Schedule No. R3-3, Region 3 Customer Service Areas Irrigation Service- Forest Lawn, Page 2

P.U.C.	
Sheet No.	Title of Sheet
8470-W	Schedule No. R3-CM-7ML, Claremont Customer Service Area Limited Metered Service, Page 3
8471-W	Schedule No. R3-CMH-3M Region 3 Claremont Customer Service Area, Measured Irrigation Service, Page 2
8472-W	Schedule No. R3-DEM-2H, Region 3 Desert Customer Service Areas, Morongo Valley-Haulage Flat Rate Service
8473-W	Schedule No. R3-OC-3M, Region 3 Orange County Customer Service Area, Metered Irrigation Service, Page 3
8474-W	Schedule No. R3-RCW, Region 3 San Gabriel Customer Service Area Non-Residential Recycled Water Service, Page 3
8475-W	Schedule No. R3-SD-3, Region 3 San Dimas Customer Service Area Measured Irrigation Service, Page 2
8476-W	Schedule No. SI-1-NR, Simi Valley Customer Service Area Non-Residential Metered Service, Page 3
8477-W	Schedule No. SI-1-R, Simi Valley Customer Service Area Residential Metered Service, Page 2
8478-W	Schedule No. SM-1-NR, Santa Maria Customer Service Area Non-Residential Metered Service, Page 4
8479-W	Schedule No. SM-1-R, Santa Maria Customer Service Area Residential Metered Service, Page 3
8480-W	Schedule No. SM-3ML, Santa Maria Customer Service Area Limited Metered Irrigation Service, Page 3
8481-W	Table of Contents, Page 3 of 4
8482-W	Table of Contents, Page 2 of 4
8483-W	Table of Contents, Page 1 of 4

Please contact Jeremy Ho at 415-703-1905, if you have any questions.

Thank you,

/s/ROBIN BRYANT

Robin Bryant

Water & Sewer Advisory Branch

Water Division

Enclosures

Utility Name: GOLDEN STATE WATER COMPANY

Date Mailed to Service List: 10/7/2019

District: Clearlake, Los Osos, Santa Maria , Simi Valley, Region 2 and Region 3

CPUC Utility #: 133 W

Protest Deadline (20th Day): 10/1/2019

Advice Letter #: 1791-WA

Review Deadline (30th Day): 10/10/2019

Tier ☒ 1 ☐ 2 ☐ 3 ☒ Compliance

Requested Effective Date: 10/10/2019

Authorization D. 19-05-044

Rate Impact: See Attachment

Description: CONSERVATION EXPENSES ONE-WAY
BALANCING ACCOUNT 2016 - DISPOSITION

The protest or response deadline for this advice letter is 20 days from the date that this advice letter was mailed to the service list. Please see the "Response or Protest" section in the advice letter for more information.

Utility Contact: Ronald Moore

Utility Contact: Nguyen Quan

Phone: (909) 394-3600 x 682

Phone: (909) 394-3600 x 664

Email: rkmoore@gswater.com

Email: nquan@gswater.com

DWA Contact: Tariff Unit

Phone: (415) 703-1133

Email: Water.Division@cpuc.ca.gov

DWA USE ONLY

DATE

STAFF

COMMENTS

Advice Letter 1791-WA

Rate Making Area(RMA)	Refund		Rate Change
Clearlake	\$ (1,007)		-0.04%
Los Osos	\$ (6,844)		-0.18%
Santa Maria	\$ (17,544)		-0.13%
Simi Valley	\$ (10,663)		-0.07%
Region 2	\$ (14,940)		-0.01%
Region 3	\$ (5,390)		-0.004%
Total (Refund) to Customers	\$ (56,388)		

October 7, 2019

Advice Letter No. 1791-WA

(133 W)

California Public Utilities Commission

Golden State Water Company ("GSWC") hereby transmits one original and three conformed copies of the following tariff sheets applicable to its Clearlake, Los Osos, Santa Maria, Simi Valley, Region 2 and Region 3 ratemaking areas:

<u>CPUC Sheet No.</u>	<u>Title of Sheet</u>	<u>CPUC Sheet No.</u>
Revised No. 8460-W*	Schedule No. CL-1- Clearlake Customer Service Area General Metered Service, Page 3	Revised No. 8429-W
Original No. 8461-W*	Schedule No. LO-1-NR Los Osos Customer Service Area Non-Residential Metered Service, Page 4	
Revised No. 8462-W*	Schedule No. LO-1-R Los Osos Customer Service Area Residential Metered Service, Page 3	Revised No. 8433-W
Revised No. 8463-W*	Schedule No. LO-RCW Los Osos Customer Service Area Non-Residential Recycled Water Service, Page 3	Revised No. 8434-W
Original No. 8464-W*	Schedule No. ME-1-NR Metropolitan Customer Service Area Non-Residential Metered Service, Page 5	
Revised No. 8465-W*	Schedule No. ME-1-R Metropolitan Customer Service Area Residential Metered Service, Page 3	Revised No. 8447-W
Revised No. 8466-W*	Schedule No. ME-3 Metropolitan Customer Service Area Reclaimed Water Service, Page 3	Revised No. 8448-W
Revised No. 8467-W*	Schedule No. R3-1-NR Region 3 Customer Service Areas Non-Residential Metered Service, Page 4	Revised No. 8451-W

Revised No. 8468-W*	Schedule No. R3-1-R Region 3 Customer Service Areas Residential Metered Service, Page 3	Revised No. 8452-W
Revised No. 8469-W*	Schedule No. R3-3 Region 3 Customer Service Areas Irrigation Service- Forest Lawn, Page 2	Revised No. 8391-W
Revised No. 8470-W*	Schedule No. R3-CM-7ML Claremont Customer Service Area Limited Metered Service, Page 3	Revised No. 8453-W
Revised No. 8471-W*	Schedule No. R3-CMH-3M Region 3 Claremont Customer Service Area Measured Irrigation Service Page 2	Revised No. 8454-W
Revised No. 8472-W*	Schedule No. R3-DEM-2H Region 3 Desert Customer Service Areas Morongo Valley-Haulage Flat Rate Service	Revised No. 8394-W
Revised No. 8473-W*	Schedule No. R3-OC-3M Region 3 Orange County Customer Service Area Metered Irrigation Service, Page 3	Revised No. 8455-W
Revised No. 8474-W*	Schedule No. R3-RCW Region 3 San Gabriel Customer Service Area Non-Residential Recycled Water Service, Page 3	Revised No. 8456-W
Revised No. 8475-W*	Schedule No. R3-SD-3 Region 3 San Dimas Customer Service Area Measured Irrigation Service, Page 2	Revised No. 8457-W
Revised No. 8476-W*	Schedule No. SI-1-NR Simi Valley Customer Service Area Non-Residential Metered Service, Page 3	Revised No. 8442-W
Revised No. 8477-W*	Schedule No. SI-1-R Simi Valley Customer Service Area Residential Metered Service, Page 2	Revised No. 8443-W

Revised No. 8478-W*	Schedule No. SM-1-NR Santa Maria Customer Service Area Non-Residential Metered Service, Page 4	Revised No. 8437-W
Revised No. 8479-W*	Schedule No. SM-1-R Santa Maria Customer Service Area Residential Metered Service, Page 3	Revised No. 8438-W
Revised No. 8480-W*	Schedule No. SM-3ML Santa Maria Customer Service Area Limited Metered Irrigation Service, Page 3	Revised No. 8439-W
Revised No. 8481-W*	Table of Contents Page 3 of 4	Revised No. 8458-W
Revised No. 8482-W*	Table of Contents Page 2 of 4	Revised No. 8449-W
Revised No. 8483-W*	Table of Contents Page 1 of 4	Revised No. 8459-W

Subject: Supplemental: Conservation Expenses One-Way Balancing Accounts 2016 - Disposition

SUPPLEMENT

Supplement to Advice Letter No. 1791-W, Conservation Expenses One-Way Balancing Accounts 2016 - Disposition. At the request of the Water Division, GSWC has modified its Advice Letter No. 1791-W to reflect an adjustment to the proposed credit for the 10" and Fire Service 6" to 4" meter sizes on Schedule No. ME-1-NR. This supplemental filing will replace Advice Letter No. 1791-W in its entirety, however, the requested effective date will remain the same, which is October 10, 2019.

PURPOSE

Golden State Water Company ("GSWC") hereby transmits for filing Advice Letter No. 1791-W. This advice letter is being submitted, pursuant to Ordering Paragraph No. ("OP") 53 in California Public Utilities Commission ("Commission") Decision No. ("D.") 19-05-044, dated May 30, 2019. Specifically, OP 53 states,

Golden State Water Company (Golden State) is authorized to maintain the Conservation Expenses One-Way Balancing Account-2016 (Preliminary Statement Part PPP) through December 31, 2018 and shall file a Tier 2 advice letter to refund any unspent monies to ratepayers. Golden State is then authorized to close the Conservation Expenses One-Way Balancing Account-2016 at the earlier of the time at which (i) its balance is zero and there are no funds remaining to be refunded to ratepayers, or (ii) it is determined that there is no refund to be distributed.

BACKGROUND

In D.16-12-067, GSWC's 2014 GRC, the Commission authorized the establishment of the Conservation Expense One-Way Balancing Account-2016 ("CEOWBA2016"). The purpose of the CEOWBA2016 is to track the difference between actual conservation program expenses and adopted conservation program budgets and refund to GSWC customers amounts included in rates, which were not spent during the 3-year conservation program cycle (2016-2018). As ordered in D.16-12-067, GSWC filed Advice Letter No. 1698-W on April 13, 2017 to establish the CEOWBA2016 for each of its ratemaking areas, which there are eight ratemaking areas in all. The CEOWBA2016 went into effect on January 1, 2016.

The CEOWBA2016 allows for the adopted conservation program budgets, for each ratemaking area, to be placed in base rates, and if any unspent funds exist in any ratemaking area after the conservation program cycle expires, then those funds are to be refunded to ratepayers in those respective ratemaking areas.

BALANCING ACCOUNT SUMMARY

As shown on Table 1 below, at the end of December 2018, GSWC's total actual conservation program expenses in each of its ratemaking areas exceeded (overspent) its total Commission-adopted conservation program budgets in each of its ratemaking areas during the program period (2016-2018). Additionally, GSWC did not transfer any of its ratemaking area specific conservation budgets among its other ratemaking areas; each conservation program budget remained within its specific ratemaking area. However, as discussed below, GSWC is proposing to issue refunds to customers in certain ratemaking areas due to program caps, as adopted in D.16-12-067, which limits the spending in certain programs such that any overspent funds in capped programs cannot be included in the total actual program expenditures that are compared to the total authorized program budgets in the CEOWBA2016.

Table 1. Conservation Program Expenses Summary

Ratemaking Areas	2016 Adopted Conservation Budget	2016 Actual Expenses	2017 Adopted Conservation Budget	2017 Actual Expenses	2018 Adopted Conservation Budget	2018 Actual Expenses	Cumulative Unadjusted Underspend (Overspent) As of 12/31/2018
Arden Cordova	\$107,488	\$84,164	\$107,488	\$225,127	\$107,488	\$40,332	(27,160)
Bay Point	\$12,252	\$7,001	\$12,252	\$19,132	\$12,252	\$10,887	(\$264)
Clearlake	\$4,143	\$1,225	\$4,143	\$12,885	\$4,143	\$5,979	(\$7,660)
Los Osos	\$8,964	\$16,470	\$8,964	\$10,970	\$8,964	\$10,572	(\$11,120)
Santa Maria	\$47,830	\$20,610	\$47,830	\$114,510	\$47,830	\$17,390	(\$9,021)
Simi Valley	\$47,047	\$27,636	\$47,047	\$82,611	\$47,047	\$32,428	(\$1,534)
Region 2	\$389,511	\$185,115	\$389,511	\$437,154	\$389,511	\$564,643	(\$18,379)
Region 3	\$443,954	\$234,497	\$443,954	\$759,787	\$443,954	\$361,783	(\$24,204)

REFUNDS

If at the end of 2018 the balance in the CEOWBA2016, by ratemaking area, is positive (meaning the authorized program expenses included in rates exceeds the actual conservation program expenses incurred), GSWC shall refund the net difference to customers in that particular ratemaking area. If at the end of 2018 the balance in the CEOWBA2016, by ratemaking area, is negative (meaning the actual conservation program expenses incurred exceeds the authorized program expenses included in rates), then no refund to customers is required.

As shown above, GSWC overspent in all of its ratemaking areas as compared to its ratemaking area specific authorized budgets. However, some of the conservation programs within each ratemaking area were capped (or had no adopted budget) and any overspent funds in those programs may not be used to offset underspent funds in other programs. Therefore, although GSWC expenses exceeded the total adopted conservation budgets in each ratemaking area these amounts must be adjusted by any overspent funds in the capped programs. As shown in Table 2 below, GSWC is proposing to issue refunds to customers in the Clearlake, Los Osos, Santa Maria, Simi Valley, Region 2 and Region 3 ratemaking areas.

Table 2. Conservation Program Capped Programs Summary

Ratemaking Areas	School Education			Outreach			Overspend Exceeding Cap	Total Reported Overspend From Table 1	Adjusted Underspend
	Adopted Cap	Actual	Diff.	Adopted Cap	Actual	Diff.			
Arden									
Cordova	\$20,250	\$17,997	\$2,253	\$6,786	\$30,028	(\$23,242)	(23,242)	(\$27,160)	(\$3,918)*
Bay Point	\$30,111	\$17,707	\$12,404	\$0	\$0	\$0	\$0	(\$264)	(\$264)*
Clearlake	\$2,928	\$4,284	(\$1,356)	\$0	\$7,311	(\$7,311)	(\$8,667)	(\$7,660)	\$1,007
Los Osos	\$6,777	\$5,147	\$1,630	\$0	\$17,965	(\$17,965)	(\$17,965)	(\$11,120)	\$6,844
Santa Maria	\$39,036	\$30,112	\$8,924	\$0	\$26,565	(\$26,565)	(\$26,565)	(\$9,021)	\$17,544
Simi Valley	\$32,838	\$24,140	\$8,698	\$0	\$12,196	(\$12,196)	(\$12,196)	(\$1,534)	\$10,663
Region 2	\$288,000	\$211,855	\$76,145	\$0	\$33,319	(\$33,319)	(\$33,319)	(\$18,379)	\$14,940
Region 3	\$288,960	\$203,307	\$85,653	\$0	\$29,594	(\$29,594)	(\$29,594)	(\$24,204)	\$5,390

* No refund required.

COMPLIANCE

GSWC is reporting the results of its CEOWBA2016 for the conservation program period of January 1, 2016 thru December 31, 2018. GSWC's total actual expenditures for the conservation program period exceeded the Commission-adopted budgets in all of its ratemaking areas. However, in order to address any adjusted underspent funds resulting from overspend in the capped programs, GSWC is proposing one-time refunds in those particular ratemaking areas. Once all of the refunds have been issued, GSWC will close Preliminary Statement, Part PPP, Conservation Expenses One-Way Balancing Account-2016, and will remove it from its tariff book. Any residual balance in the CEOWBA2016 will be rolled into GSWC's General Ratemaking Area Balancing Account, Preliminary Statement, Part III.

ONE-TIME REFUNDS

The one-time refunds will be issued to all water customers in the Clearlake, Los Osos, Santa Maria, Simi Valley, Region 2 and Region 3 ratemaking areas, via the monthly service charge, based on meter size, beginning on the effective date of this advice letter.

BILL IMPACT

Clearlake

If this advice letter is approved, customers on Schedule No. CL-1 with a 5/8" x 3/4" meter would receive a one-time refund of \$0.44.

Los Osos

If this advice letter is approved, customers with a 5/8" x 3/4" meter on Schedule No. LO-1-R and Schedule No. LO-1-NR would receive a one-time refund of \$1.65.

Santa Maria

If this advice letter is approved, customers with a 5/8" x 3/4" meter on Schedule No. SM-1-R and Schedule No. SM-1-NR would receive a one-time refund of \$0.93.

Simi Valley

If this advice letter is approved, customers with a 5/8" x 3/4" meter on Schedule No. SI-1-R and Schedule No. SI-1-NR would receive a one-time refund of \$0.60.

Region 2

If this advice letter is approved, customers with a 5/8" x 3/4" meter on Schedule No. ME-1-R and Schedule No. ME-1-NR would receive a one-time refund of \$0.09.

Region 3

If this advice letter is approved, customers with a 5/8" x 3/4" meter on Schedule No. R3-1-R and Schedule No. R3-1-NR would receive a one-time refund of \$0.03.

Customers who are served by other meter sizes and/or rate schedules other than residential or non-residential will receive a one-time refund, as listed on their respective water rate schedules.

SUPPORTING WORKPAPERS

Detailed supporting workpapers showing each ratemaking area's conservation program budget and actual expenditures, by category, are being supplied to Water Division staff and the Public Advocates Office.

TIER DESIGNATION

This advice letter has a Tier 2 designation.

EFFECTIVE DATE

GSWC is requesting that this filing become effective on October 10, 2019.

CUSTOMER NOTICE

GSWC will include a bill message on the first bill after the effective date of Advice Letter No. 1791-W to inform customers in the Clearlake, Los Osos, Santa Maria, Simi Valley, Region 2 and Region 3 ratemaking areas of the refund (credit) being applied to their monthly service charge. GSWC has attached a copy of its Customer Notice Verification with the drafted bill message language.

RESPONSE OR PROTEST

Anyone may submit a response or protest for this Advice Letter (AL). When submitting a response or protest, **please include the utility name and advice letter number in the subject line.**

A **response** supports the filing and may contain information that proves useful to the Commission in evaluating the advice letter. A **protest** objects to the AL in whole or in part and must set forth the specific grounds on which it is based. These grounds are:

1. The utility did not properly serve or give notice of the AL;
2. The relief requested in the AL would violate statute or Commission order, or is not authorized by statute or Commission order on which the utility relies;
3. The analysis, calculations, or data in the AL contain material error or omissions;
4. The relief requested in the AL is pending before the Commission in a formal proceeding; or
5. The relief requested in the AL requires consideration in a formal hearing, or is otherwise inappropriate for the AL process; or
6. The relief requested in the AL is unjust, unreasonable, or discriminatory, provided that such a protest may not be made where it would require re-litigating a prior order of the Commission.

A protest may not rely on policy objections to an AL where the relief requested in the AL follows rules or directions established by statute or Commission order applicable to the utility. A protest shall provide citations or proofs where available to allow staff to properly consider the protest.

DWA must receive a response or protest via email (**or** postal mail) within 20 days of the date the AL is filed. When submitting a response or protest, **please include the utility name and advice letter number in the subject line.**

The addresses for submitting a response or protest are:

Email Address:

Water.Division@cpuc.ca.gov

Mailing Address:

CA Public Utilities Commission
Division of Water and Audits
505 Van Ness Avenue
San Francisco, CA 94102

On the same day the response or protest is submitted to DWA, the respondent or protestant shall send a copy of the protest to Golden State Water Company at:

Email Address:
regulatoryaffairs@gswater.com

Mailing Address:
Golden State Water Company
Ronald Moore
630 East Foothill Blvd.
San Dimas, CA 91773

Cities and counties that need Board of Supervisors or Board of Commissioners approval to protest should inform DWA, within the 20-day protest period, so that a late filed protest can be entertained. The informing document should include an estimate of the date the proposed protest might be voted on.

REPLIES

The utility shall reply to each protest and may reply to any response. Any reply must be received by the Water Division within five business days after the end of the protest period, and shall be served on the same day on each person who filed the protest or response to the AL.

Cities and counties that need Board of Supervisors or Board of Commissioners approval to protest should inform the Water Division, within the 20-day protest period, so that a late filed protest can be entertained. The informing document should include an estimate of the date the proposed protest might be voted on.

The actions requested in this advice letter are not now the subject of any formal filings with the California Public Utilities Commission, including a formal complaint, nor action in any court of law.

No individuals or utilities have requested notification of filing of tariffs. Distribution of this advice letter is being made to the attached service list in accordance with General Order No. 96-B.

Sincerely,

/s/ Ronald Moore
Ronald Moore
Regulatory Affairs Department
Golden State Water Company

c: James Boothe, CPUC – Water Division
Pat Ma, CPUC- Cal PAO
Richard Smith, CPUC- Cal PAO

SPECIAL CONDITIONS

7. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.177 per Ccf is to be added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1784-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019.
8. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.

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(N)

The table below shows the credit amount by meter size:

Meter Size	Credit
5/8" x 3/4"	\$ 0.44
3/4"	\$ 0.66
1"	\$ 1.10
1-1/2"	\$ 2.20
2"	\$ 3.52
3"	\$ 6.61
4"	\$ 11.01
6"	\$ 22.03
8"	\$ 35.24
10"	\$ 50.66
Fire Sprinkler 1" to 5/8"	\$ 0.45
Fire Sprinkler 1" to 3/4"	\$ 0.66
Fire Sprinkler 1 1/2" to 3/4"	\$ 0.70
Fire Sprinkler 2" to 3/4"	\$ 0.71
Fire Sprinkler 1 1/2" to 1"	\$ 1.14
Fire Sprinkler 2" to 1"	\$ 1.16

(N)

SPECIAL CONDITIONS

14. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.

The table below shows the credit amount by meter size:

Meter Size	Credit
5/8" x 3/4"	\$ 1.65
3/4"	\$ 2.48
1"	\$ 4.13
1-1/2"	\$ 8.25
2"	\$ 13.20
3"	\$ 24.75
4"	\$ 41.25
6"	\$ 82.51
8"	\$ 132.01
10"	\$ 189.76
Fire Sprinkler 6" to 3"	\$ 26.63

(N)

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SPECIAL CONDITIONS

9. As authorized by the California Public Utilities Commission, an amount of \$0.185 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1771-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the Los Osos Basin Management Committee Memorandum Account, (LOBMCMA) as of May 2017.
10. As authorized by the California Public Utilities Commission, an amount of \$0.174 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1771-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the Los Osos 2013 GRC Phase-In Balancing Account, (LO2013GRCBA) as of May 2017.
11. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.090 per Ccf is to be added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1785-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019.
12. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.

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The table below shows the credit amount by meter size:

Meter Size	Credit
5/8" x 3/4"	\$ 1.65
3/4"	\$ 2.48
1"	\$ 4.13
1-1/2"	\$ 8.25
2"	\$ 13.20
Fire Sprinkler 1" to 5/8"	\$ 1.72
Fire Sprinkler 1" to 3/4"	\$ 2.50
Fire Sprinkler 1 1/2" to 3/4"	\$ 2.82
Fire Sprinkler 2" to 3/4"	\$ 2.95
Fire Sprinkler 1 1/2" to 1"	\$ 4.46
Fire Sprinkler 2" to 1"	\$ 4.58

(N)

SPECIAL CONDITIONS

9. As authorized by the California Public Utilities Commission, an amount of \$0.185 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1771-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the Los Osos Basin Management Committee Memorandum Account, (LOBMCMA) as of May 2017.
10. As authorized by the California Public Utilities Commission, an amount of \$0.174 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1771-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the Los Osos 2013 GRC Phase-In Balancing Account, (LO2013GRCBA) as of May 2017.
11. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.090 per Ccf is to be added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1785-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019.
12. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.

The table below shows the credit amount by meter size:

Meter Size	Credit
5/8" x 3/4"	\$ 1.65
3/4"	\$ 2.48
1"	\$ 4.13
1-1/2"	\$ 8.25
2"	\$ 13.20
3"	\$ 24.75
4"	\$ 41.25
6"	\$ 82.51
8"	\$ 132.01
10"	\$ 189.76

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SPECIAL CONDITIONS

13. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.

(N)

The table below shows the credit amount by meter size:

Meter Size	Credit
5/8" x 3/4"	\$ 0.09
3/4"	\$ 0.13
1"	\$ 0.22
1-1/2"	\$ 0.45
2"	\$ 0.71
3"	\$ 1.34
4"	\$ 2.23
6"	\$ 4.47
8"	\$ 7.15
10"	\$ 10.27
Fire Sprinkler 3" to 5/8"	\$ 0.25
Fire Sprinkler 3" to 3/4"	\$ 0.29
Fire Sprinkler 4" to 5/8"	\$ 0.30
Fire Sprinkler 4" to 1"	\$ 0.43
Fire Sprinkler 4" to 1 1/2"	\$ 0.64
Fire Sprinkler 4" to 2"	\$ 0.90
Fire Sprinkler 4" to 3"	\$ 1.39
Fire Sprinkler 6" to 5/8"	\$ 0.41
Fire Sprinkler 6" to 1"	\$ 0.54
Fire Sprinkler 6" to 1-1/2"	\$ 0.75
Fire Sprinkler 6" to 2"	\$ 1.01
Fire Sprinkler 6" to 3"	\$ 1.50
Fire Sprinkler 6" to 4"	\$ 2.35
Fire Sprinkler 8" to 5/8"	\$ 0.47
Fire Sprinkler 8" to 1"	\$ 0.61
Fire Sprinkler 8" to 1-1/2"	\$ 0.81
Fire Sprinkler 8" to 2"	\$ 1.07
Fire Sprinkler 8" to 3"	\$ 1.56
Fire Sprinkler 10" to 2"	\$ 1.36
Fire Sprinkler 10" to 3"	\$ 1.85
Fire Sprinkler 10" to 4"	\$ 2.69
Fire Sprinkler 10" to 6"	\$ 4.81

(N)

SPECIAL CONDITIONS

9. Beginning August 16, 2019, as required by Section 792.5 of the Public Utilities Code, an increase in purchased power of \$0.00700/kWh, an increase in Purchased Water of \$0.04640/Ccf and an increase in Pump Tax of \$.05930/Ccf, relative to the Purchased Power, Purchased Water and Pump Tax cost adopted by Decision No. 19-05-044, and an associated revenue increase of 1.06%, are being tracked in a reserve account.
10. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.171 per Ccf is to added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1788-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019.
11. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.

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(N)

The table below shows the credit amount by meter size:

Meter Size	Credit
5/8" x 3/4"	\$ 0.09
3/4"	\$ 0.13
1"	\$ 0.22
1-1/2"	\$ 0.45
2"	\$ 0.71
Fire Sprinkler 1" to 5/8"	\$ 0.09
Fire Sprinkler 1" to 3/4"	\$ 0.14
Fire Sprinkler 1 1/2" to 3/4"	\$ 0.16
Fire Sprinkler 2" to 3/4"	\$ 0.16
Fire Sprinkler 1 1/2" to 1"	\$ 0.24
Fire Sprinkler 2" to 1"	\$ 0.25

(N)

SPECIAL CONDITIONS

9. Beginning August 16, 2019, as required by Section 792.5 of the Public Utilities Code, an increase in purchased power of \$0.00700/kWh, an increase in Purchased Water of \$0.04640/Ccf and an increase in Pump Tax of \$.05930/Ccf, relative to the Purchased Power, Purchased Water and Pump Tax cost adopted by Decision No. 19-05-044, and an associated revenue increase of 1.06%, are being tracked in a reserve account.
10. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.171 per Ccf is to added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1788-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019. (P)
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11. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs. (N)
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The table below shows the credit amount by meter size:

Meter Size	Credit
5/8" x 3/4"	\$ 0.06
3/4"	\$ 0.09
1"	\$ 0.16
1-1/2"	\$ 0.31
2"	\$ 0.50
3"	\$ 0.94
4"	\$ 1.56
6"	\$ 3.13
8"	\$ 5.00
10"	\$ 7.19

(N)

SPECIAL CONDITIONS

8. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.007 per Ccf is to be added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1789-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019.
9. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.

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(N)

The table below shows the credit amount by meter size:

Meter Size	Credit
5/8" x 3/4"	\$ 0.03
3/4"	\$ 0.05
1"	\$ 0.08
1-1/2"	\$ 0.16
2"	\$ 0.26
Fire Sprinkler 1" to 5/8"	\$ 0.03
Fire Sprinkler 1" to 3/4"	\$ 0.05
Fire Sprinkler 1 1/2" to 3/4"	\$ 0.06
Fire Sprinkler 2" to 3/4"	\$ 0.06
Fire Sprinkler 1 1/2" to 1"	\$ 0.09
Fire Sprinkler 2" to 1"	\$ 0.09

(N)

SPECIAL CONDITIONS

5. Quantity Fee for Recycled Water. GSW shall not assess a quantity fee for the quantity of recycled water used by the Cemetery for irrigation purposes.
6. Potable Water Quantity Fee. Should the Cemetery use potable water supplied by GSW for irrigation purposes following commencement of the use of recycled water for such purposes, GSW shall charge Forest Lawn and Forest Lawn shall pay to GSW a fee per hundred cubic feet of potable water served to the Cemetery ("Potable Water Quantity Fee"), which shall reimburse GSW for the variable costs of supplying potable water supplies to the Cemetery for irrigation purposes. The Potable Water Quantity Fee shall initially be equal to forty-nine percent (49%) ("Variable Cost Percentage") of GSW's Generally applicable water quantity fee pursuant to GSW's tariff schedule R3-1 or successor tariff. The initial Variable Cost Percentage is set forth in Advice Letter No. 1217-W.
7. The Variable Cost Percentage shall be adjusted, as necessary, concurrently with the effective date of each future change in GSW's CPUC-approved tariff schedule R3-1 or successor tariff. The methodology for said Variable Cost Percentage adjustment shall be the same as that set forth in Exhibit B to the Agreement attached to Advice Letter No. 1217-W.
8. Meter Service Cost. Forest Lawn shall reimburse GSW for any and all actual costs incurred by GSW in replacing the meters associated with providing potable water to the Cemetery for irrigation purposes, when such replacement is, in GSW's sole determination, necessary.
9. Potable Water Supplies During Drought Period Conditions; Rationing. The Parties acknowledge that the substitution of recycled water for a significant portion of the Cemetery's irrigation needs will result in a lower historical baseline of potable water service to the Cemetery in the future. GSW agrees that should it employ a rationing program during drought periods, which sets water supply allocations based upon historical baseline water use, Forest Lawn will be assigned an effective annual baseline use equal to its actual annual use of recycled and table water during any baseline period.
10. As authorized by the California Public Utilities Commission, a one-time credit of \$1.60 is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.

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SPECIAL CONDITIONS

9. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.007 per Ccf is to be added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1789-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019.
10. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.

The table below shows the credit amount by meter size:

Meter Size	Credit
5/8" x 3/4"	\$ 0.03
3/4"	\$ 0.05
1"	\$ 0.08
1-1/2"	\$ 0.16
2"	\$ 0.26
3"	\$ 0.48
4"	\$ 0.80
6"	\$ 1.60
8"	\$ 2.56
10"	\$ 3.68

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(P)

(N)

(N)

SPECIAL CONDITIONS

10. As authorized by the California Public Utilities Commission in D. 16-12-067, an amount of \$0.257 per Ccf is to be added to the Quantity Rate for a period of 24 months, beginning on the effective date of Advice Letter 1720-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2016 through April 19, 2017.
11. As authorized by the California Public Utilities Commission, an amount of \$0.309 per Ccf based on a 12-month amortization period, is to be added to the Quantity Rate, beginning on the effective date of Advice Letter 1767-WA, which is March 29, 2019. The surcharge may be recalibrated annually, if necessary. This surcharge will recover the under-collection in the 2018 MCBA Balancing Account.
12. As authorized by the California Public Utilities Commission, an amount of \$0.026 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1773-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the 2014 Water Conservation Memorandum Account, (2014WCMA) as of May 2017.
13. As authorized by the California Public Utilities Commission, an amount of \$0.003 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1773-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the 2013 Interim Rate Memorandum Account, (2013IRMA) as of May 2017.
14. As authorized by the California Public Utilities Commission, an amount of \$0.011 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1773-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the Basin Pumping Rights Litigation Memorandum Account, (OCBPRLMA) as of May 2017.
15. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.007 per Ccf is to be added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1789-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019. (P)
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(P)
16. As authorized by the California Public Utilities Commission, a one-time credit of \$0.03 is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs. (N)
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(N)

APPLICABILITY

Applicable to all water delivered from Company designated outlets for haulage by customers for domestic use.

TERRITORY

Morongo Valley and vicinity, San Bernardino County.

RATES

Per Month

For water delivered for domestic use only
and when hauled by the customer

\$ 50.44

SPECIAL CONDITIONS

1. Each customer desiring to obtain water under this schedule must make an application for service to the utility.
2. Service under this schedule will be furnished only from Company designated outlets specified for haulage service consisting of 3/4-inch hose bib with garden hose fitting located in Morongo Valley as follows:

Southwest corner of Sinilis Avenue and Juniper Avenue

3. All bills are subject to the reimbursement fee set forth on Schedule No. UF.

(D)

4. As authorized by the California Public Utilities Commission, a one-time credit of \$0.03 is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.

(N)

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(N)

SPECIAL CONDITIONS

10. As authorized by the California Public Utilities Commission, an amount of \$0.026 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1773-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the 2014 Water Conservation Memorandum Account, (2014WCMA) as of May 2017.
11. As authorized by the California Public Utilities Commission, an amount of \$0.003 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1773-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the 2013 Interim Rate Memorandum Account, (2013IRMA) as of May 2017.
12. As authorized by the California Public Utilities Commission, an amount of \$0.011 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1773-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the Basin Pumping Rights Litigation Memorandum Account, (OCBPRMLMA) as of May 2017.
13. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.007 per Ccf is to be added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1789-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019.
14. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.

(P)
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(P)

(N)

The table below shows the credit amount by meter size:

Meter Size	Credit
2"	\$ 0.26
3"	\$ 0.48
4"	\$ 0.80
6"	\$ 1.60

(N)

SPECIAL CONDITIONS

8. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.007 per Ccf is to be added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1789-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019.
9. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.

(P)

(P)

(N)

The table below shows the credit amount by meter size:

Meter Size	Credit
5/8" x 3/4"	\$ 0.03
3/4"	\$ 0.05
1"	\$ 0.08
1-1/2"	\$ 0.16
2"	\$ 0.26
3"	\$ 0.48
4"	\$ 0.80
6"	\$ 1.60
8"	\$ 2.56
10"	\$ 3.68

(N)

SPECIAL CONDITIONS

11. As authorized by the California Public Utilities Commission in D. 16-12-067, an amount of \$0.257 per Ccf is to be added to the Quantity Rate for a period of 24 months, beginning on the effective date of Advice Letter 1720-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2016 through April 19, 2017.
12. As authorized by the California Public Utilities Commission, an amount of \$0.309 per Ccf based on a 12-month amortization period, is to be added to the Quantity Rate, beginning on the effective date of Advice Letter 1767-WA, which is March 29, 2019. The surcharge may be recalibrated annually, if necessary. This surcharge will recover the under-collection in the 2018 MCBA Balancing Account.
13. As authorized by the California Public Utilities Commission, an amount of \$0.026 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1773-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the 2014 Water Conservation Memorandum Account, (2014WCMA) as of May 2017.
14. As authorized by the California Public Utilities Commission, an amount of \$0.003 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1773-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the 2013 Interim Rate Memorandum Account, (2013IRMA) as of May 2017.
15. As authorized by the California Public Utilities Commission, an amount of \$0.011 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1773-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the Basin Pumping Rights Litigation Memorandum Account, (OCBPRMLMA) as of May 2017.
16. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.007 per Ccf is to be added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1789-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019. (P)
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(P)
17. As authorized by the California Public Utilities Commission, a one-time credit of \$0.03 is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs. (N)
|
(N)

SPECIAL CONDITIONS

7. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.144 per Ccf is to be added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1787-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019.
8. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.

The table below shows the credit amount by meter size:

Meter Size	Credit
5/8" x 3/4"	\$ 0.60
3/4"	\$ 0.90
1"	\$ 1.51
1-1/2"	\$ 3.01
2"	\$ 4.82
3"	\$ 9.04
4"	\$ 15.06
6"	\$ 30.12
8"	\$ 48.20
10"	\$ 69.29
Fire Sprinkler 4" to 3"	\$ 9.42
Fire Sprinkler 6" to 1-1/2"	\$ 5.47
Fire Sprinkler 6" to 2"	\$ 7.22
Fire Sprinkler 6" to 3"	\$ 10.34
Fire Sprinkler 8" to 2"	\$ 7.72
Fire Sprinkler 8" to 3"	\$ 10.84

(P)

(P)

(N)

(N)

SPECIAL CONDITIONS

1. All bills are subject to the reimbursement fee set forth on Schedule No. UF.
2. Pursuant to Decision No. 19-05-044, a surcharge of \$0.151 per Ccf will be applied to all metered customer bills excluding customers that are receiving the CARW credit. This surcharge will offset the CARW credits and CARW administrative program costs recorded in the CARW Balancing Account.
3. As authorized by the California Public Utilities Commission, an amount of \$0.016 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1771-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the 2014 Water Conservation Memorandum Account, (2014WCMA) as of May 2017.
4. As authorized by the California Public Utilities Commission, an amount of \$0.043 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1771-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the 2013 Interim Rate Memorandum Account, (2013IRMA) as of May 2017.
5. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.144 per Ccf is to be added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1787-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019.
6. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs. The table below shows the credit amount by meter size:

Meter Size	Credit
5/8" x 3/4"	\$ 0.60
3/4"	\$ 0.90
1"	\$ 1.51
1-1/2"	\$ 3.01
2"	\$ 4.82
Fire Sprinkler 1" to 5/8"	\$ 0.63
Fire Sprinkler 1" to 3/4"	\$ 0.91
Fire Sprinkler 1 1/2" to 3/4"	\$ 1.03
Fire Sprinkler 2" to 3/4"	\$ 1.08
Fire Sprinkler 1 1/2" to 1"	\$ 1.61
Fire Sprinkler 2" to 1"	\$ 1.66

(P)
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(P)

(N)

(N)

SPECIAL CONDITIONS

13. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.145 per Ccf is to be added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1786-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019.
14. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.

(P)

(P)

(N)

The table below shows the credit amount by meter size:

Meter Size	Credit
5/8" x 3/4"	\$ 0.93
3/4"	\$ 1.39
1"	\$ 2.32
1-1/2"	\$ 4.64
2"	\$ 7.42
3"	\$ 13.92
4"	\$ 23.20
6"	\$ 46.40
8"	\$ 74.25
10"	\$ 106.73
Fire Sprinkler 4" to 3"	\$ 14.62
Fire Sprinkler 6" to 2"	\$ 11.71
Fire Sprinkler 6" to 3"	\$ 16.25
Fire Sprinkler 8" to 2"	\$ 12.60

(N)

SPECIAL CONDITIONS

8. As authorized by the California Public Utilities Commission, an amount of \$0.099 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1771-W, which is June 8, 2019. This surcharge will amortize the cumulative under collection balance recorded in the Santa Maria Stipulation Memorandum Account, (SMSMA) as of May 2017.
9. As authorized by the California Public Utilities Commission, an amount of \$0.041 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1771-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the 2014 Water Conservation Memorandum Account, (2014WCMA) as of May 2017.
10. As authorized by the California Public Utilities Commission, an amount of \$0.002 per Ccf is to be added to the quantity rate for a 12-month period from the effective date of Advice Letter 1771-W, which is June 8, 2019. This surcharge will amortize the cumulative balance recorded in the 2013 Interim Rate Memorandum Account, (2013IRMA) as of May 2017.
11. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.145 per Ccf is to be added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1786-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019.
12. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs.
The table below shows the credit amount by meter size:

Meter Size	Credit
5/8" x 3/4"	\$ 0.93
3/4"	\$ 1.39
1"	\$ 2.32
1-1/2"	\$ 4.64
2"	\$ 7.42
Fire Sprinkler 1" to 5/8"	\$ 0.98
Fire Sprinkler 1" to 3/4"	\$ 1.42
Fire Sprinkler 1 1/2" to 3/4"	\$ 1.66
Fire Sprinkler 2" to 3/4"	\$ 1.75
Fire Sprinkler 1 1/2" to 1"	\$ 2.58
Fire Sprinkler 2" to 1"	\$ 2.67

(P)

(P)

(N)

(N)

SPECIAL CONDITIONS

13. As authorized by the California Public Utilities Commission in D.19-05-044, an amount of \$0.145 per Ccf is to be added to the quantity rate for a period of 12-months, beginning on the effective date of Advice Letter No. 1786-W. This surcharge recovers the difference between the interim rates and final rates for the period of January 1, 2019 through June 7, 2019.
14. As authorized by the California Public Utilities Commission, a one-time credit is to be applied to the customer's bill beginning on the effective date of Advice Letter No. 1791-W. The one-time credit will refund the un-spent monies in the adopted budget for certain conservation programs. The table below shows the credit amount by meter size:

Meter Size	Credit
3/4"	\$ 1.39
1"	\$ 2.32
3"	\$ 13.92

(P)

(P)

(N)

(N)

<u>Subject Matter of Sheet</u>	<u>Schedule Number</u>	<u>CPUC Sheet No.</u>	
Rate Schedules:			
Region 3 Customer Service Areas			
Residential Metered Service	R3-1-R	8346-W, 8347-W, 8468-W*	(C)
Non-Residential Metered Service	R3-1-NR	8343-W, 8344-W, 8345-W, 8467-W*	(C)
Irrigation Service- Forest Lawn	R3-3	8348-W, 8469-W*	(C)
Region 3 Claremont Customer Service Areas			
Limited Metered Service	R3-CM-7ML	8350-W, 8351-W, 8470-W*	(C)
Measured Irrigation Service	R3-CMH-3M	8352-W, 8471-W*	(C)
Metered Irrigation Service	R3-CMP-3M	5966-W	
Region 3 Desert Customer Service Area			
Haulage Flat Rate Service - Morongo	R3-DEM-2H	8472-W*	(C)
Region 3 Orange County Customer Service Area			
Metered Irrigation Service	R3-OC-3M	8355-W, 8356-W, 8473-W*	(C)
Region 3 San Gabriel Customer Service Area			
Recycled Water Service	R3-RCW	8358-W, 8359-W, 8474-W*	(C)
Region 3 San Dimas Customer Service Area			
Measured Irrigation Service	R3-SD-3	8360-W, 8475-W*	(C)
Santa Maria District			
Residential Metered Service	SM-1-R	8327-W, 8328-W, 8479-W*	(C)
Non-Residential Metered Service	SM-1-NR	8324-W, 8325-W, 8326-W, 8478-W*	(C)
Limited Metered Irrigation Service	SM-3ML	8330-W, 8331-W, 8480-W*	(C)
Water Conservation	14.1-CPR	7382-W, 7383-W, 7384-W, 7385-W, 7386-W, 7387-W	
Water Conservation	14.1-NPM	7247-W, 7248-W, 7249-W, 7250-W, 7251-W, 7252-W	
Simi Valley District			
Residential Metered Service	SI-1-R	8322-W, 8477-W*	(C)
Non-Residential Metered Service	SI-1-NR	8320-W, 8321-W, 8476-W*	(C)
Contracts and Deviations		7803-W	

<u>Subject Matter of Sheet</u>	<u>Schedule Number</u>	<u>CPUC Sheet No.</u>	
Rate Schedules:			
All Districts			
Utility Fee Surcharge	UF	8248-W	
Private Fire Service	AA-4	4801-W, 3285-W	
Public Fire Service	AA-5	2931-W	
Cross Connection Control Fee	CCCF	7506-W	
Fire Flow Testing Charge	FF	7659-W	
California Alternate Rates for Water	LI	8310-W, 8287-W	
Arden-Cordova District			
General Metered Service	AC-1	8297-W, 8298-W, 8299-W, 8421-W	
Flat Rate Service	AC-2	8300-W, 8301-W, 8422-W	
Bay Point District			
Residential Metered Service	BY-1-R	8406-W, 8307-W, 8426-W	
Non-Residential Metered Service	BY-1-NR	8404-W, 8304-W, 8425-W	
Clearlake District			
General Metered Service	CL-1	8308-W, 8309-W, 8460-W*	(C)
Los Osos District			
Residential Metered Service	LO-1-R	8314-W, 8315-W, 8462-W*	(C)
Non-Residential Metered Service	LO-1-NR	8311-W, 8312-W, 8432-W, 8461-W*	(C)
Recycled Water Service	LO-RCW	8317-W, 8318-W, 8463-W*	(C)
Water Conservation	14.1-LO	7300-W, 7301-W, 7302-W, 7303-W, 7304-W, 7305-W	
Metropolitan District			
Residential Metered Service	ME-1-R	8412-W, 8338-W, 8465-W*	(C)
Non-Residential Metered Service	ME-1-NR	8410-W, 8336-W, 8386-W, 8446-W, 8464-W*	(C)
Reclaimed Water Service	ME-3	8414-W, 8340-W, 8466-W*	(C)

The following tariff sheets contain all effective rates and rules affecting rates and service of the utility, together with information relating thereto:

<u>Subject Matter of Sheet</u>	<u>Sheet No.</u>
Title Page	4905-W
Table of Contents	8483-W*, 8482-W*, 8481-W*, 8402-W (T)
Preliminary Statements: 8370-W, 7005-W, 3140-W, 3141-W, 3142-W, 6940-W, 4911-W, 4973-W, 5081-W, 5096-W*, 5097-W*, 5102-W, 5223-W, 5278-W, 5284-W, 5322-W, 6477-W, 6478-W, 6479-W, 7075-W, 7076-W, 5556-W, 5576-W, 5607-W, 5852-W, 5701-W, 5846-W, 5848-W, 5937-W, 5939-W, 5979-W, 6055-W, 6101-W, 6103-W, 6123-W, 7745-W, 7746-W, 6223-W, 6225-W, 6227-W, 6422-W*, 6475-W, 6559-W, 6652-W, 6858-W, 7129-W, 6938-W, 7368-W, 7441-W, 7442-W, 7451-W, 7481-W, 7728-W, 7730-W, 7747-W, 7748-W, 7749-W, 7750-W, 7751-W, 7752-W, 7753-W, 7754-W, 7755-W, 7756-W, 7757-W, 7994-W, 8007-W, 8246-W, 8365-W, 8366-W, 8367-W, 8418-W, 8419-W	
Tariff Area Maps:	
Arden - Cordova	
Arden	6837-W
Cordova	6838-W
Barstow	5560-W
Bay	8189-W
Calipatria-Niland	6846-W
Clearlake	6839-W
Claremont	8225-W
Morongo Valley	8223-W, 6427-W
Apple Valley North	5802-W
Apple Valley South	8221-W
Desert View	8222-W
Lucerne Valley	5805-W
Los Osos	
Edna Road	8198-W
Los Osos	5253-W
Metropolitan	
Artesia	8292-W
Norwalk	7732-W
Bell-Bell Gardens	6675-W
Florence-Graham	8294-W
Hollydale	8295-W
Culver City	8293-W
Southwest	8196-W
Willowbrook	6842-W
Orange County	
Bolsa Chica	4381-W
Cowan Heights	8251-W
Cypress-Los Alamitos-Stanton	8252-W
Placentia-Yorba Linda	6844-W
San Dimas	8226-W
San Gabriel Valley	
South Arcadia	8004-W
South San Gabriel	8005-W
Santa Maria	
Cypress Ridge	8254-W
Lake Marie	5705-W
Orcutt	5558-W
Sisquoc	5257-W
Tanglewood	7429-W
Nipomo	5259-W
Simi Valley	8190-W
Wrightwood	6428-W

VERIFICATION

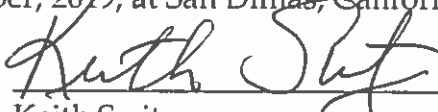
I am Vice President of Regulatory Affairs for, and an officer of, Golden State Water Company ("GSWC"), and am authorized to make this verification on its behalf with respect to the customer notification for **Advice Letter No. 1791-W**. GSWC intends to provide customer notification of **Advice Letter No. 1791-W** to affected customers by: (check all that apply)

- ☐ Bill Insert
- ☒ Bill Message
- ☐ Individual Notice by Mail
- ☐ Electronic Mail
- ☐ Legal Notices Published in a Local Newspaper of General Circulation
- ☐ Other (please explain) _____

GSWC will include a bill message on each of its impacted customers' first bill generated after the rate change goes into effect to inform them of the one-time refund (credit) proposed in **Advice Letter No. 1791-W**. Additionally, a copy of this advice letter and the bill message is posted on the Company's website. The foregoing statement is true of my own knowledge.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 11th day of September, 2019, at San Dimas, California.



Keith Switzer
Vice President, Regulatory Affairs
Golden State Water Company

Bill Message

Effective October 10, 2019, your bill includes a one-time credit to refund the unspent monies in the adopted budgets for certain water conservation programs.

GOLDEN STATE WATER COMPANY

SERVICE LIST

CLEARLAKE DISTRICT

Highlands Water Company
14580 Lakeshore Drive
Clearlake, CA 95422

Konocti County Water District
15844 – 35th Street
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Clearlake, CA 95422
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STaylor@ArroyoGrande.org

Morro Bay City Water (City Hall)
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S & T Mutual Water Co.
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GOLDEN STATE WATER COMPANY

SERVICE LIST

SIMI VALLEY DISTRICT

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West Basin Municipal Water District
Julie Frazier-Mathews - Executive Asst.
Patrick Sheilds – General Manager
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South Gate, CA 90280

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Santa Ana, CA 92702

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San Bernardino, CA 92405

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East Pasadena Water Co.
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Pasadena, CA 91107

Jurg Heuberger, CEP, Executive Officer
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Barlen Mutual Water
P.O. Box 77
Barstow, CA 92311

California American Water
4701 Beloit Drive
Sacramento, CA 95838-2434
ca.rates@amwater.com

Calif. Dept. of Forestry
7105 Airway Drive
Yucca Valley, CA 92284

Daggett Community Service
P. O. Box 308
Daggett, CA 92327
(619) 254-2415

East Orange County Water
185 N. McPherson Road
Orange, CA 92869-3720
lohlund@eocwd.com
ech20@ocwd.com

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Attn: Supervisor Raymond R. Castillo, Chairman
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940 W. Main St, #212
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Mariana Ranchos County Water District
9600 Manzanita Street
Apple Valley, CA 92308
MarianaCWD@mrcwd.org

Morongo Valley Comm Serv Dist
P. O. Box 46
Morongo Valley, CA 92256

Park Water Company
9750 Washburn Road
Downey, CA 90241

San Gabriel County Water Co.
8366 Grand Avenue
Rosemead, CA 91770

Seeley County Water District
P.O. Box 161
Seeley, CA 92273

Sheep Creek Water Company
P. O. Box 291820
Phelan, CA 92329-1820
Attn: Chris Cummings
sheepcreek@verizon.net

Twentynine Palms Water Dist.
72401 Hatch Rd. (P.O. Box 1735)
Twentynine Palms, CA 92277
(619) 367-7546
RKolisz@29palmswater.org

Walnut Valley Water Dist.
271 S. Brea Canyon Road
Walnut, CA 91789

City of Anaheim
City Clerk's Office
200 S. Anaheim Blvd. – Suite 217
Anaheim, CA 92805

Navajo Mutual Water Company
P. O. Box 392
Apple Valley, CA 92307-392
Gmnmwc@gmail.com

Rancheritos Water Co.
P.O. Box 348
Apple Valley, CA 92307
(619) 247-3730
RMWC1954@gmail.com

San Gabriel Valley Water Co.
11142 Garvey Blvd.
El Monte, CA 91732
dadellosa@sgvwater.com

Serrano Water Dist. - Villa Park
18021 East Lincoln Street
Villa Park, CA 92667

Sunny Slope Water Co.
1040 El Campo Dr.
Pasadena, CA 91107-5506
Ken@sunnyslopewatercompany.com
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Victor Valley Water District
14343 Civic Drive
P O box 5001
Victorville, CA 92392

Water Issues Committee
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P. O. Box 487
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City of Arcadia Water Co.
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Arcadia, CA 91066-6021
ttait@ci.arcadia.ca.us

City of Alhambra Utilities Dept.
111 S. First Ave.
Alhambra, CA 91801

City of Brawley Water Co.
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Brawley, CA 92227
TSalcido@Brawley-ca.gov

City of Brea
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Brea, CA 92621

City of Buena Park
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Buena Park, CA 90620
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City of Calexico Water Co.
608 Heber Avenue
Calexico, CA 92231
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City of Covina
534 Barranca Avenue
Covina, CA 91723
CMarcareello@covinaca.gov

City of El Centro Water Co
307 W. Brighton
El Centro, CA 92243

City of El Monte Water Co.
11333 Valley Blvd.
El Monte, CA 91732
jmussenden@ci.el-monte.ca.us

City of Fullerton Water
Fullerton Water Department
303 W. Commonwealth Avenue
Fullerton, CA 92631
garh@ci.fullerton.ca.us

City of Garden Grove
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Garden Grove, CA 92643
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City of Glendora
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Glendora, CA 91740

Herber Public Utility District
P. O. BOX H
Heber, CA 92249

City of Hesperia Water Department
9700 Seventh Avenue
Hesperia, CA 92345
jwyman@cityofhesperia.us

City of Imperial - Water Department
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Imperial, CA 92251

City of La Palma
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La Palma, CA 90623
Attn: Jeff Moneda, PW Director

City of La Verne Water Department
Jerry Mesa, Utilities Manager
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Monte Vista Water District
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City of Monrovia Water Co.
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Monrovia, CA 91016

City of Pomona Water Department
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City of West Covina Water Dept.
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West Covina, CA 91790

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City of Orange Water Dept.
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City of Upland Water Dept.
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